

The California Sunday Magazin

DEATH OF A GLACIER





**"I JUST KNEW.
THAT'S BEDROCK."**

**THE NEXT THOUGHT WAS,
IF THAT'S BEDROCK, THERE CAN'T
BE MUCH GLACIER LEFT."**

WHAT REMAINS

For the past 148 years, Yosemite's Lyell Glacier has taught us about the Earth — how it was created, where it was going, and now, how it might end.

*By Daniel Duane
Photographs by Nicholas Albrecht*

TEST DRIVE THE FUTURE

THE POWER TO START SOMETHING BIGGER

TOYOTA MIRAI
FUEL CELL LAB

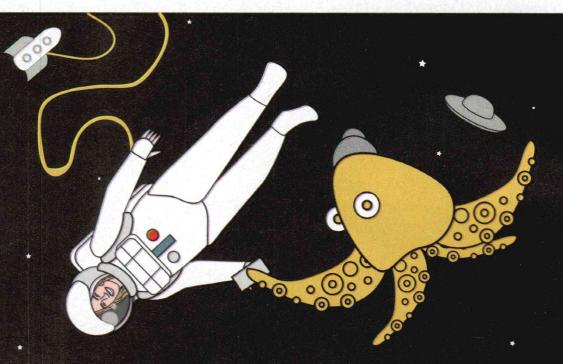
TOURS
START
HERE



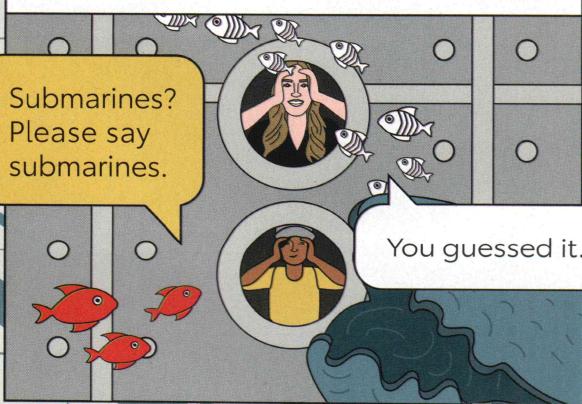
Where did NASA get the technology?

Hydrogen fuel cell technology actually started out at NASA. The Toyota Mirai was one of the first cars on the market to use it.

Good question. They've been working with it since the '50s. Astronauts used fuel cells to power the electronics on the space shuttle.



Since then, scientists have found ways to incorporate fuel cells into all kinds of vehicles, from forklifts to buses to —



Submarines?
Please say submarines.

You guessed it.

But when we realized hydrogen could effectively power cars like ours, we took the technology to a whole new level. Besides being very fun to drive, every Mirai on the road right now is producing zero carbon emissions. That's because, as an electric vehicle powered by hydrogen fuel, the Mirai's only emission is —



Spiders?

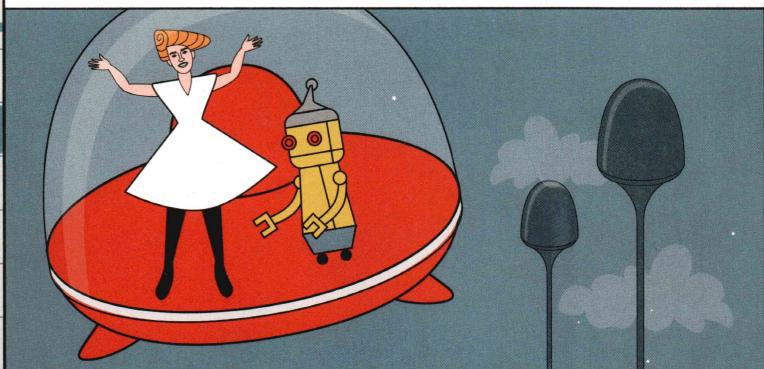
Pancakes?

Oatmeal?

Water! Which helps us protect the environment for kids like you. The more we can shift away from carbon emissions, the better shape we'll all be in.



Good for him! We're all about self-improvement — recently, we've been hard at work on a plan we're calling the Toyota Environmental Challenge 2050. We've set six big goals that will impact every aspect of what we do. We're not just reducing our impact, we're finding ways to make things even better.

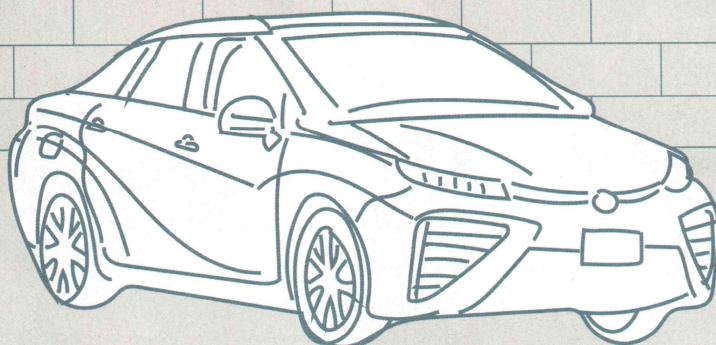
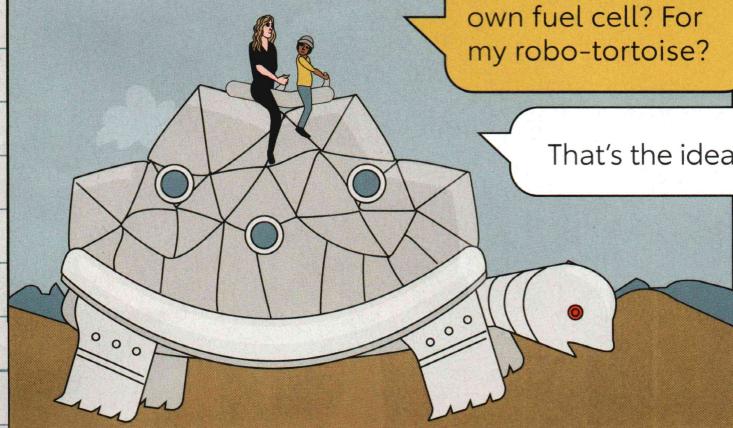


And it's not just us. We've already made more than five thousand fuel cell patents public, so that other car manufacturers — or anybody! — can start to explore this technology, too.

So I could build my own fuel cell? For my robo-tortoise?

That's the idea.

That's awesome. Do you need another fuel cell scientist? I'm going to be an astronaut, too, and on my days off my mom says I can telecommute from Jupiter. There's tons of hydrogen there.

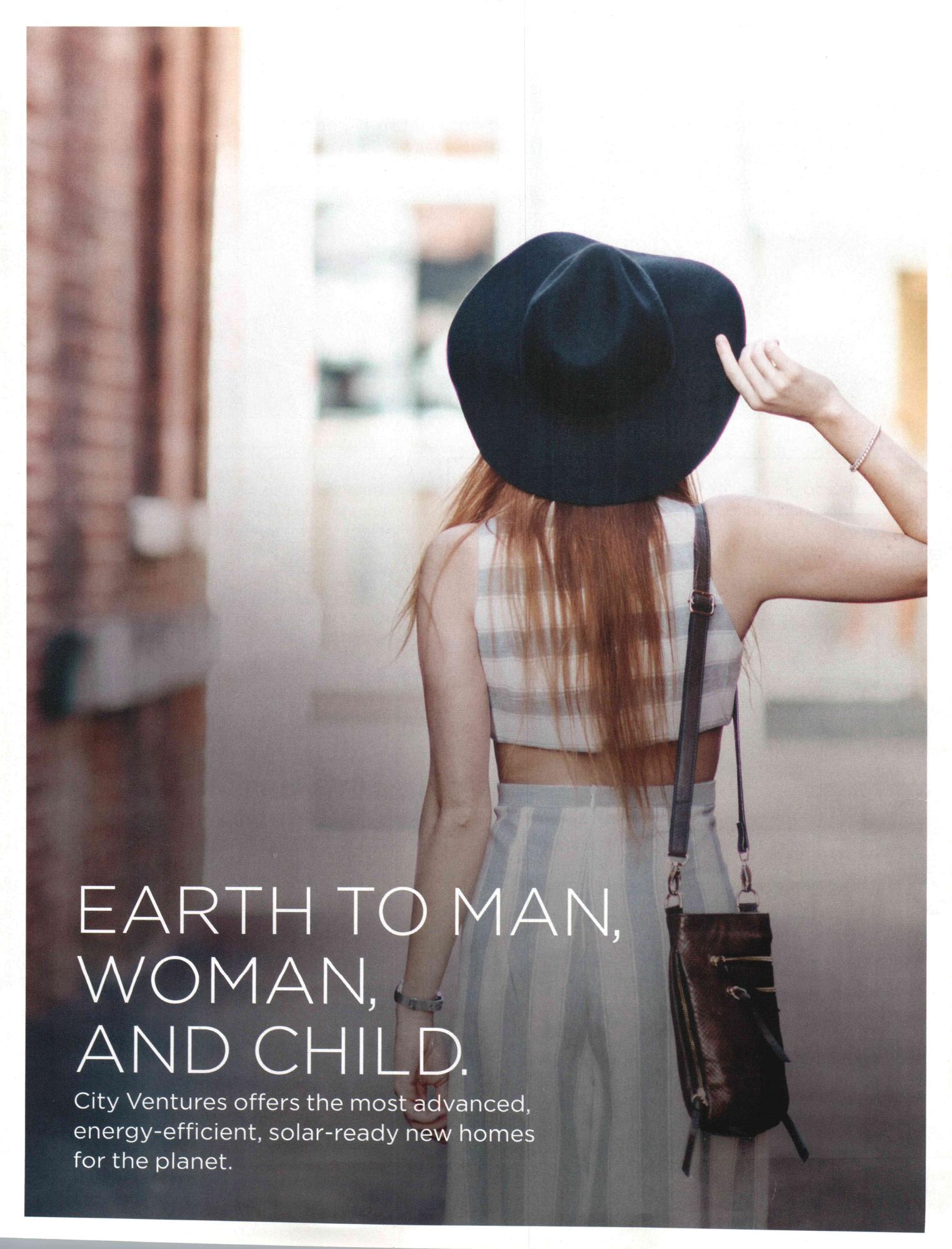


Sounds great. I'll give you my card. Hey, it looks like your parents are done with that test drive. Wanna go tell 'em what you've learned?



Mirai

Toyota.com/Mirai



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City Ventures
RESIDENCES

EXPECTING

The pregnant teen, the villager giving birth far from home, the woman imprisoned for miscarrying: pregnancy in El Salvador, where women can't choose where, or whether, to give birth

Photographs and text by Nadia Shira Cohen

**HER TIME**

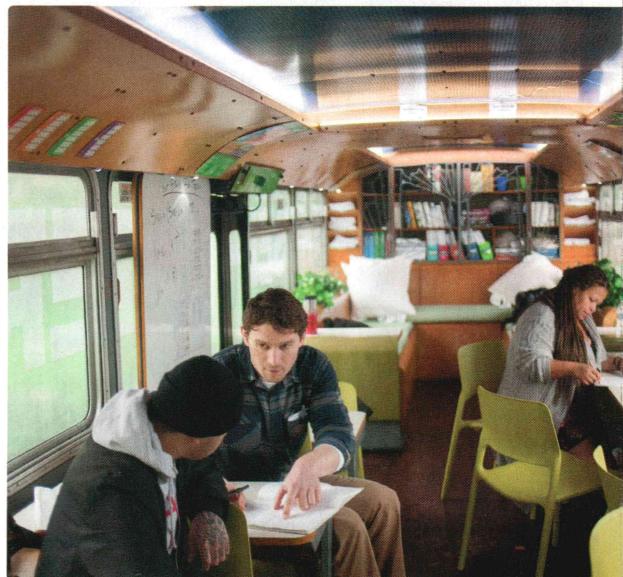
Debra Koosed was diagnosed with dementia at 65. That's when she decided she no longer wanted to live.

*By Katie Engelhart
Illustrations by Nick Runge*

Features**THE BELIEVER**

After a mysterious freestyle ski run in last year's Winter Olympics, people called Elizabeth Swaney a scam artist and the worst athlete in the history of the games. They're wrong.

*By Davy Rothbart
Photographs by Erin Brethauer*





60

"YOU GOT YOUR HIGH SCHOOL DIPLOMA?"

What happens when you put a classroom on wheels and park it in the poorest neighborhoods of San Francisco?

By Elizabeth Weil

Photographs by Eugene Riley
and Chris Shurn

←



11

RE: RE: RE: RE:

A glimpse inside the lives of asylum-seekers, new couples, prisoners, and pen pals through their letters, texts, WhatsApp messages, and Facebook posts

Text by Ann Babe,
Haley Cohen Gilliland, Raha Naddaf, Joy Shan,
and Amy Wallace

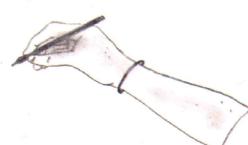
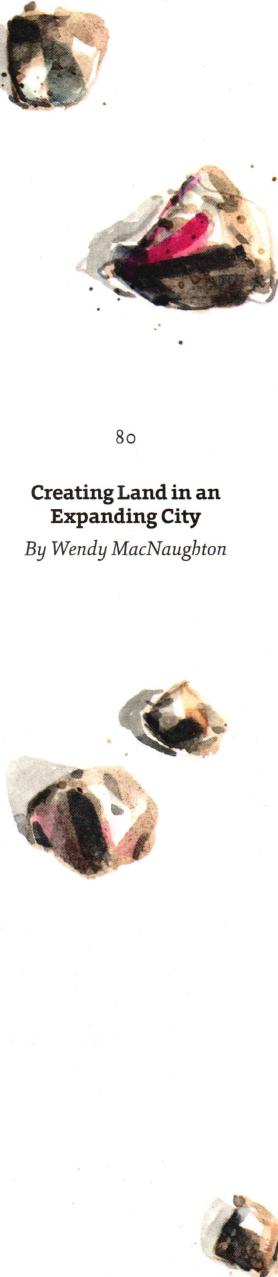
Photographs by Naomi McColloch
Illustrations by Aidan Koch



80

Creating Land in an Expanding City

By Wendy MacNaughton



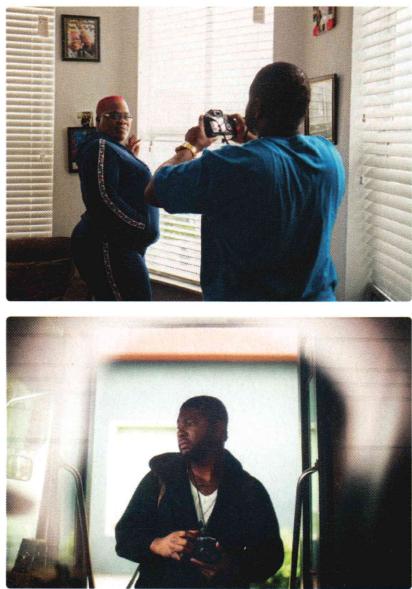
A magazine
called California
Sunday that
covers more
than California?

That'd be like
a company called
Mailchimp
that does more
than mail.



We outgrew our name by giving small business owners a complete marketing platform, including audience management, automations, and an

easy-to-use landing page builder. All to help you grow your business so much that you might outgrow your name, too.



Chris Shurn (top left) and Eugene Riley (bottom left)

Last fall, photographer Brian L. Frank, a *California Sunday* contributor, taught a photojournalism class at San Francisco State University for men and women returning from prison. Our photography director, Jacqueline Bates, was struck by the work, particularly from two photographers, Chris Shurn and Eugene Riley. Brian said: "Chris has this ability to just

Photographs by Brian L. Frank

walk up to anybody and start shooting the s---, and then you just forget he's there taking pictures. Eugene has this way of being really thoughtful about translating what he's feeling into an image." Jackie approached them about shooting a story on adult education ("You Got Your High School Diploma?") in this month's issue — she thought they could create a comfortable space for the subjects and bring an intimacy to the images. I spoke with Chris and Eugene about the assignment.

Me: How did you first get into photography?

Chris: I always had an eye for pictures. The only break that I had from taking pictures is when I did nine years in prison.

Eugene: I was trying to go to school, trying to stabilize my life. I was just kind of like, This could be something different than what I'm doing. I was using the camera to focus on something else and get my mind off of the reality that I was going through.

Me: What do you look for when you're out with your camera?

Chris: I feel that I can capture moments that nobody else can. There have been times when I had to ask for money to eat. I've been in prison. A majority of people in America don't go through those things. But I know how that feels. And sometimes, you know, the best way to express it is to capture a moment on camera.

People don't look at Eugene and me as journalists. They look at us with curiosity: "Who are these guys with these cameras?" Once they

realize this is no police sting, that I'm not trying to profit from your life story, they loosen up.

Brian: One of the main subjects in the story was very tentative about letting us photograph her. Then Chris realized he had done some time with her brother.

Chris: She found out that I did time in San Quentin. She told me her brother's name. And I said, off the top, I already knew who he was. Her brother and I went to a masjid — I'm Muslim. I literally prayed right next to this man. It's hard to explain, but when you don't see your brother for over 10, 15, maybe 20 years, and you talk to somebody that was right next to him almost every day? It's like you're brushing up against his shoulders a little bit.

Me: What about you, Eugene?

Eugene: I guess, for me, being formerly incarcerated, having a lot of changes going on in my life, people perceive me a certain way. And I don't like how I'm viewed. For me, taking pictures, I'm able to show the world my perspective. You have your perception, but when you get to look at the pictures I take, you get to see the world through my eyes.

Me: What did you think of the story you shot?

Chris: People are trying to get an education 'cause they're trying to live better lives. Some people recognize that early, and some people recognize it late. To be able to capture those pictures, to see people in that mindset, trying to get to the next level in life, it was a pleasure to be there.

Eugene: Shelia took a bad situation and used a program like Five Keys to go change her life for the better. I'm going through the same thing. I've been given a camera and the opportunity to try and change my life.

Doug

EDITOR IN CHIEF



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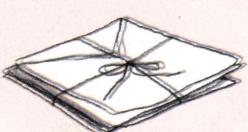


The asylum-seeker sending updates to her sister in Venezuela

Whether we're dating or married, lifetime pen pals or strangers, separated from family or meeting them for the first time, so much of what we have to say, and how we say it, happens through what we write to one another. And with the many tools that allow us to relay our every thought in real time, we've all become autobiographers, creating intimate records of our lives as we live them. Several people opened up their email inboxes, messaging apps, and (actual) envelopes. Their correspondences document everything from the impact of global tectonic shifts to the details of their days.

Photographs by Naomi McColloch
Illustrations by Aidan Koch

*Exchanges have been edited for length and clarity.



In January 2018, Josefina, a former engineer in Venezuela, moved to California, with her husband and teenage daughter. As vocal critics of the Venezuelan government, Josefina and her husband feared that if they remained in their home country, they might be jailed or kidnapped. While adjusting to life in the U.S., Josefina often messaged with her older sister, María, on WhatsApp. She vented about the asylum process and her struggles to find a well-paying job so she could continue supporting her family in Venezuela. María updated her about birthday parties and funerals, water shortages, and grocery shopping in a land of hyperinflation and scarcity.

— HALEY COHEN GILLILAND

April 7, 2018 7:34 PM

JOSEFINA We just bought beds, a little dining set, and the kitchen gear for the new apartment. It already has a kitchen, a refrigerator, a washer and a dryer. This comes after three months of not watching TV and being a little hungry.

MARÍA I imagine that it's been really stressful and that's why you haven't been as communicative.

JOSEFINA Little by little we're breathing easier.

JOSEFINA We're waiting for our work permits that will hopefully come in September.

April 10, 2018 1:35 PM

JOSEFINA Remember that you can use my credit cards if you need to.

MARÍA I'll buy everything I can for mom.

JOSEFINA Buy for yourselves as well, don't line up so much, and buy stuff in bulk when you find it.

April 17, 2018 3:31 PM

JOSEFINA We're trying to find work because right now we don't have enough money.

I've been cleaning houses, washing clothes, ironing, bathing clients, changing diapers.

MARÍA Na!!!! That's a lot of work.

JOSEFINA Too much for this little body.

April 27, 2018 10:30 PM

JOSEFINA This week I've been contacted by various tech businesses. They have seen my CV on the internet. I'm not invisible! They all require work permits.

June 28, 2018 6:37 PM

MARÍA Hellooooooo sister! We haven't had water here for a week, and we're

without internet and TV — we think robbers stole the cables. Our uncle found his boat without its motor, and it was filled with rocks.

July 1, 2018 3:15 PM

MARÍA It's been raining and we still don't have water so I'm trying to grab as much rain as I can in buckets.

MARÍA I used the Mastercard to buy potatoes, and I bought mom 8 rolls of toilet paper because they've gotten much more expensive and it's rare to find them.

JOSEFINA Buy everything you can find in terms of food and medicine. It'll always be cheaper today than tomorrow.

July 11, 2018 7:36 PM

JOSEFINA Each one of us got our work permits and social security cards! Now we need to look for work!

MARÍA Hallelujah!

MARÍA The water came back on for us around dawn this morning, but some of it was wasted because the tank overflowed.

July 12, 2018 1:29 PM

JOSEFINA They approved us for asylum! In a year we will be able to request permanent residency!

MARÍA [missed call]

MARÍA My girl! What a fight!

August 9, 2018 9:52 PM

JOSEFINA My tailbone hurts from spending so much time at the computer looking for jobs. The biggest barrier is my English.

September 8, 2018 12:29 PM

JOSEFINA Sometimes I dream of my pots, my truck, my photos, my dolls, my apartment. Everything that was left behind. My parents. You guys. I won't be able to return for a good while.

MARÍA You have to fight for the good things.

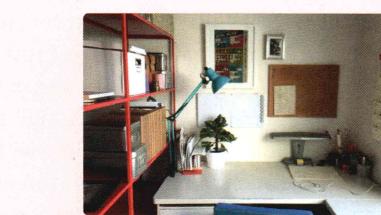
The couple who swap photos when they're apart

During fire season, Bucky Eastland, an engineer with the California Department of Forestry and Fire Protection, leaves his home in San Francisco to fight blazes around the state. In a regular week, he'll be gone for three days, but during the dry summer months, he might work as many as 21 — after which he gets to return home for a few days before reporting back for another shift. When Bucky's on the road, he and his wife, Dana, exchange snapshots of their days — road signs, sunsets, meals, car selfies, VHS tapes to add to their collection. Dana sends photos of their dog, Porter, and Bucky replies with dogs he encounters while fighting fires.

— JOY SHAN



This is a very wholesome version of "show me yours I'll show you mine"



36 hours
30 minutes of sleep

Rough



Aw babe.



hands down, the best meal of my life

Haha I absolutely believe you



Do we need any of these?

We dont have willow or blair
witch, we have the other ones



The man who writes letters to prisoners he's never met

Artist Benjamin Todd Wills has been writing to people in prison for a decade. It all began when he was in college and two acquaintances were sent to serve 20-plus years. "These sentences were approximately the age gap between my father and myself, so I started contemplating how life jumps from 20 to 40 with incarceration," he says. First Wills wrote to his friends, then he started sending letters to prisoners he had never met, beginning with a batch of 20 inmates. Hoping to get two or three responses, he received 21, including from an inmate he hadn't written to. While reading the letters, Wills immediately recognized the prisoners' need for human contact — some told him that they had never received a letter since being locked up. Wills kept writing and has amassed thousands of letters from incarcerated people throughout the country. Some send short stories; others write about their lives, regrets, fear, violence, sadness, softball, meals, the weather, hope; some send detailed drawings of their cells; one person mailed him an oil painting. And some, to Wills's surprise, fold their letters into paper airplanes before sending them off.

— RAHA NADDAF



The gamers who fell in love online

Christina and Jean-Marie didn't learn each other's names until a month into their friendship. In the spring of 2018, they met on Discord, an app used by 150 million gamers around the world to text or voice chat. They knew each other by their screen names: She was Persephone#5130, and he was Omage#3249. Despite the nine-hour time difference between her home in California and his in Belgium, they began to talk every day — coordinating attacks in *Final Fantasy XIV*, watching each other's video game streams, dissecting their interactions with fellow gamers, and, eventually, confessing their deeper feelings. They met IRL for the first time in October, when Jean-Marie traveled to California to see her.

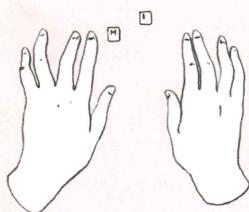
— JOY SHAN

May 9, 2018 8:59 AM

PERSEPHONE#5130 hi Omage, let me know if you want to beat up the turtle some more today 😊
OMAGE#3249 Yeah, im gonna do a few more tries. will probably do it on your break/lunch ^^

May 9, 2018 10:48 AM

OMAGE#3249 Are you busy or up for some runs? ^^
PERSEPHONE#5130 Gimme a couple minutes
OMAGE#3249 No problem ^^
PERSEPHONE#5130 logging on



May 12, 2018 3:09 PM

PERSEPHONE#5130 dumb question. do you live in France?
OMAGE#3249 Belgium
PERSEPHONE#5130 i think you said before that you speak French?

OMAGE#3249 I speak french but live in belgium ^^
OMAGE#3249 Kill me with this bahamut raid

PERSEPHONE#5130 ↗

June 4, 2018 12:20 PM

PERSEPHONE#5130 what is your first name?
OMAGE#3249 Jean-Marie ^^
PERSEPHONE#5130 oh that's right you told me
PERSEPHONE#5130 and i was saying how i was not sure how to pronounce it 😊
PERSEPHONE#5130 i'll ask you in voice chat

July 3, 2018 5:23 PM

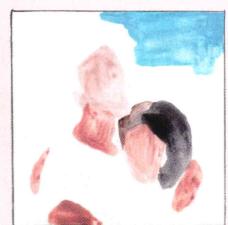
PERSEPHONE#5130 Do you know what a crush is?
OMAGE#3249 Yes
PERSEPHONE#5130 I've had a crush on you for a while =/ i feel really silly because I'm almost 100% sure you're not interested
OMAGE#3249 I need to think about it, since im not sure this will work out because we live on opposite sides of the world
PERSEPHONE#5130 No worries! Sorry to spring this on you at 3 AM >_>
PERSEPHONE#5130 I would appreciate it if you don't tell other people in discord?
OMAGE#3249 Don't worry.

July 3, 2018 5:56 AM

OMAGE#3249 Perse, i really like your personality, the jokes you make, even when we have opposite points of view, we still manage to find agreement. So lets make it work.
PERSEPHONE#5130 o_o Omage
OMAGE#3249 my whole body is shaking right now, hahaha.

July 3, 2018 11:58 AM

PERSEPHONE#5130 can i watch you when you raid?
OMAGE#3249 Its in one hour ^^
OMAGE#3249 But yes



July 6, 2018 7:51 PM

PERSEPHONE#5130 I would love for you to come visit me in CA next year, if it's possible for you. I want to share more things with you.

July 6, 2018 11:44 PM

OMAGE#3249 How is the weather in California actually?
PERSEPHONE#5130 Google spring in San Jose CA

July 13, 2018 10:58 PM

OMAGE#3249 What did you do while i was sleeping? <3
PERSEPHONE#5130 Waited for you to wake up ;)

July 20, 2018 5:42 PM

PERSEPHONE#5130 Do you have a passport?
OMAGE#3249 Not yet, but tomorrow morning im gonna go to the administration to get one.

July 30, 2018 7:48 AM

PERSEPHONE#5130 You haven't told other people about us? In your gaming community
OMAGE#3249 Nobody knows beside the ones we told
PERSEPHONE#5130 May i ask why? I'm not upset. I just wanna know

OMAGE#3249 You said that you weren't sure it was official yet
PERSEPHONE#5130 this is a real relationship and you are my boyfriend. I don't want you to think that it isn't official to me
OMAGE#3249 Dont worry im not hurt just confused

PERSEPHONE#5130 maybe we can talk more after you get off from work

August 1, 2018 8:54 AM

OMAGE#3249 Did i actually sleep earlier in voice?
PERSEPHONE#5130 yes you did
PERSEPHONE#5130 i heard you snoring ❤
PERSEPHONE#5130 i may need to get some earplugs when we sleep together

August 25, 2018 12:25 PM

PERSEPHONE#5130 I told my mom that my friend is visiting from Belgium
OMAGE#3249 What did she say?
PERSEPHONE#5130 She said immigrating is hard unless you get a degree or married
OMAGE#3249 ↗_(`)_↗
PERSEPHONE#5130 You don't have to meet her in October, don't worry

September 12, 2018 9:34 AM

PERSEPHONE#5130 I'm curious about this relationship question I found on Reddit. What are your realistic expectations for living together? What does a normal M-F look like?

PERSEPHONE#5130 my daily routine is: wake up, go to work, go home and watch YT videos.
>> i have a boring routine
OMAGE#3249 We could play games together, and go outside from time to time :p

September 17, 2018 1:19 PM

OMAGE#3249 If I went missing, my body never recovered, would you move on or devote your life to looking for me? If you did move on, how long would you wait?

PERSEPHONE#5130 i would devote as much of my life as i can to looking for you while still living. like, still going to work

October 15, 2018 2:16 PM

OMAGE#3249 Well, i hope everything will go alright when we're together this week ^^
PERSEPHONE#5130 are you going to sleep?
OMAGE#3249 Yeah, i think i will go sleep now
OMAGE#3249 See you tomorrow ❤
PERSEPHONE#5130 message me when you wake up? :3
OMAGE#3249 It feels a bit magical to say that 😊

A Northern California resident using Facebook to update friends while wildfires threaten his neighborhood

On the evening of October 8, 2017, the winds were blowing like crazy in Sonoma County, and my stepfather, John McChesney, was on alert. Just four years earlier, the retired NPR reporter and his wife, Wendy von Wiederhold, had watched their two-bedroom farmhouse burn in a chimney fire. Now the conditions were perfect for wildfires, and John was worried about their newly rebuilt home, their two dogs, three goats, and eight chickens. The next day, as news spread that the Nuns Fire was threatening Santa Rosa, friends reached out on Facebook. "Are you two okay there, John?" one foreign correspondent wrote from India. "Lapping mighty close to your neck of the woods. Xxoo" John's first response came a day later; soon he was using the site not just to share updates but to ponder the power and wonder of nature itself. John was diagnosed with leukemia in 2018, and he died six months later at the age of 78. But his posts live on.

— AMY WALLACE



October 10, 2017

Wendy and I are safe at our friend Pat's house in Sonoma. We evacuated twice yesterday; the second time as the fire had started down our canyon. We won't know the fate of the house til later today. As most of you know we were burned out 4 years ago. If it has happened again, I'm not sure how we'll handle it.

October 10, 2017

Great news from the neighborhood. House still standing!

October 11, 2017

We were under our third evac order, but decided to stick it out and the situation looks good. Few active fires near us; winds calm. Thank all of you for concern and no "thoughts and prayers."

October 12, 2017

The dogs are with us still at the house. We stayed overnight and immediate threats seem reduced. Goats and chickens evacuated yesterday. We are both wrung out and relieved, but the horror around us continues. 24 dead, 170,000 acres

burned, thousands of homes lost. Tourists told to get out. That's new for Sonoma County! The firemen here are truly heroic. Sounds trite, but I watched them close up yesterday successfully defend a neighborhood at great risk to themselves.

October 13, 2017

Still at home. All quiet. Can't leave because if we do, we can't come back because we are in an evac area. To those of you not here that may seem crazy, but we have an easy, quick exit route that is not threatened by fire. Cars are loaded. Harder to leave and then have to imagine what's happening than to stay and wait. Physically we are fine, psychologically, a little stressed. This is day five.

October 14, 2017

Morning check in for all the good friends out there. We are still here and the immediate threats are sharply reduced. Winds have been less than forecasted and are dying down. Feeling better, but naturally exhausted. Will take years for this part of paradise to recover.

October 15, 2017

We are out of it unless some random nastiness occurs in the future. Our little valley, Bennett Valley, got scorched in places, especially on our great Bennett Mountain (Trione-Annadel State Park), some upper reaches of Sonoma Mountain Road, and the area up on Bennett Ridge. Looking forward to first day without that all-consuming tension. Time to quit worrying about ourselves and see what we can do for others who have fared so badly.



Two strangers who discovered they are brother and sister

October 15, 2017

Sitting here on the front porch in a strange silence. No traffic at all except for the occasional convoy of firetrucks, or a sheriff's car. Red Tail hawk wheeling overhead, crows chatting, hummingbirds fighting over our feeders, covey of quail in the front yard, me drinking a glass of Lasseter's Rose, slowly coming down from the fiery fury I just saw on the Mayacamas ridge miles from here. Hell hath no fury like mother nature seeking a correction.

Fire. I will not have a gas fireplace in spite of the fact that a chimney fire burned our house down once. Fire is mesmerizing, random, consuming, dancing. I can stare into a campfire or fireplace for hours. A gas fireplace is static, boring, industrial. We try to keep fire in a box: a coal-fired power plant, our furnaces, but when it gets loose we learn that this force that has changed our species — keeping warm and cooking — can devour us.

Wendy and I went down to watch a fire in a neighborhood near here a couple of days ago, and as it moved along, I have to say, it was both terrifying and fascinating as it consumed trees. This probably sounds crazy, but nature at work is compelling, crazy or not. And thank the gods for fire's natural enemy, water. Watching that suffocation of flame is far more satisfying. And air: when you are choking on it, you realize even more sharply how you need it, and that no one should play with it for their profit.

Our hills are blackened, but the encouraging thing is that the coastal live oaks look as if they might survive. Their foliage seems largely intact. The Monterey Pines and the Eucalyptus, foreigners, go up like torches. But the oaks may survive.

I know this seems like a rambling rant, but that's the mood I'm in. I am not indifferent to those who had no time to retrieve anything. In fact, having dodged that twice, I cannot imagine anything more depressing: your past simply erased, everything you held dear just gone, not like digital, there's no recovery.

The hummingbirds are still fighting over the feeders. I wanted to tell them there's enough for everyone, but they wouldn't listen.



Yadira Izaguirre was 17 when she gave birth to her first child — a girl — in San Francisco in 1965. She was living with her aunt who would not allow Yadira to keep the baby, so she gave her up for adoption. When Yadira later married and had three more children — Marcos, Daniel, and Raquel — she spoke openly with

them about their older sister. In 2018, decades after Yadira died, Daniel signed up for 23andMe, the genetic-testing service, and was connected to another 23andMe customer whom, the service claimed, he was related to. Soon after, he received a message from Bianca Seed: "Hi my mom's mom has the exact same story as yours. Did your mom come to San Francisco when she came to the United States?" He stared at it, stunned, before responding: "Yes, my mother left Nicaragua and was raised by her aunt in San Francisco. Bianca — your mother might be my sister."

Bianca quickly signed her mother, Lucianna, up for an account.

— HALEY COHEN GILLILAND

The conversation migrates to a group text among the siblings.

May 28, 2018

LUCIANNA SEED

Hello Daniel,
I was born in San Francisco
Jan 8, 1965. My mother's name
is Yadira Izaguirre. I was put up
for adoption. My mother was
17. I am very curious to know if
we have the same mother!!!

DANIEL RIVERA

Hi Lucianna,
My mother's name is also
Yadira Izaguirre and she was
raised by her aunt, Josephina.
My siblings and I have always
known that mom had to give
up her first child for adoption.
It appears that you are our
older sister.

LUCIANNA SEED

OMG!!!! I'm dumbfounded.
I have a brother!!! Do you
have any other brothers
and sisters?

DANIEL RIVERA

Luci — You have another
brother, Marcos, and a sister
Raquel. They both live in
Ohio. I also have three other
half-sisters I grew up with.
Both Raquel and Marcos are
texting me and they want to
connect with you as well.

LUCIANNA SEED

I'm totally freaking out!!

May 29, 2018

LUCIANNA Hello Daniel,

Hello Marcos! Hello Raquel!
This has been so surreal for me.
I'm still in shock. I'm Lucianna
(Luci). I can't believe this day
has come true. I have 2 brothers
and a sister!!!

RAQUEL I can't express the
words. You are a connection
to Mom, and that in itself is
fulfilling.

DANIEL Having trouble
concentrating at work. I love
you all so much.

RAQUEL I can't believe this
is happening.

MARCOS I'm no longer the older
sibling LOL. Seriously though,
I have thought often about
where my sister may be. And
here we are.



The prisoner who sends Facebook messages to his sister from his contraband cellphone

For the first eight years of his sentence, Marcus* would send letters and cards to his older sister, Mary, who rarely had the time to respond. It didn't help that Marcus kept getting transferred — first to another county, then, eventually, to three different states — so Mary had little way of knowing whether her correspondence would reach him. Then, in the fall of 2017, a fellow prisoner smuggled in a cellphone. Marcus was suddenly able to contact his family instantly, bypassing prison staff, who read, and censor, all mail. He and Mary could talk through Facebook Messenger, and when the signal was strong enough, they'd video chat, which allowed Marcus to speak to his 2-year-old niece, whom he's never met in person. In February, Marcus was transferred yet again. Before the move, he erased the phone's history, cleared its data, and left it at the last prison. Mary expects to hear from him any day now.

— JOY SHAN

"Ateh" or "ate," is Tagalog for "older sister."

September 12, 2017 9:44 PM

MARCUS Hi ateh

September 13, 2017 7:11 PM

MARY Hi Butthead

MARCUS Ur daughter's adorable ateh

September 15, 2017 5:38 PM

MARY Thanks butthead

January 8, 2018 9:43 PM

MARCUS Hey dork. Maroons ur favorite color rtye?

January 9, 2018 5:20 PM

MARY Yea sometimes lol

June 12, 2018 7:14 PM

MARCUS Hi butthead

MARCUS I hate being that deadbeat brother that asks for money all the time. But someone has to do it! Lol

MARCUS Ateh. I need 100 if u can in like 2-3 weeks. So I can help my girl pay off this phone

June 15, 2018 4:40 PM

MARCUS Atehhhhh

MARY Hi Butthead!

MARY I'm broke too! Lol This Sunday is Father's Day and I had to overdraft my account just



so I can take my husband out this weekend lmao

MARCUS Lol I understand ateh

MARCUS When next time u going home

MARY I doubt I'll be going back anytime soon

MARCUS If u do go home. You gonna cook adobo?

MARY Huh? Cook adobo for who?

MARCUS The family duhh

MARCUS And my gf wants to try it 1 day lol

MARY Well tell her to YouTube it lmao

July 7, 2018 7:47 PM

MARY I just got fired on Friday lol but I'll send you the phone card.

MARCUS Well it's their loss ateh. Hope everything works out

MARY Thanks Butthead. I'll be fine. Lol

MARCUS I know

September 28, 2018 9:19 PM

MARCUS I wanted to facetime so ur daughter can get use to seeing me

MARCUS It's good she's talking now. I should be back in Cali by January

MARY That's good! That way it's easier to visit you

MARY Can babies visit too?

MARCUS Yes u just have to bring birth certificate

MARY Kk goodnight Butthead. Wish me luck, I have to apply to a bunch of jobs and I'm looking for high paying jobs!!

MARCUS Wishing u best of luck! U deserve it all ateh.

October 10, 2018 8:48 PM

MARCUS Hi ateh

MARCUS Prison is goin to shit now

MARCUS Lol

MARCUS They got the rapists child molesters and snitches on same yard as us. Those assholes work in the kitchen and cook and spit/defile our food

MARY Eww that's nasty

MARCUS Tough times ahead. I love you guys. You'll hear from me later

MARY Well keep your head up and don't let them get to you!

MARCUS But now general population has to mix with them and that's what we don't want so that's why

MARCUS A lot of prisons are getting into riots

MARY Just stay away from the trouble!

MARY You have good behavior right??

MARCUS Yea most of the time. Lol

MARY Well keep it that way!!

MARCUS I don't do drugs or anything

MARY Can't you buy snacks and stuff so you don't have to eat their food?

MARCUS Yup that's y my gf sending me money lol

MARCUS K goodnight ateh miss n love you guys

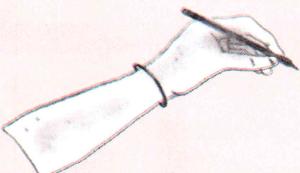
MARY Be safe Butthead!

*Names have been changed.

Two women who have been pen pals for 55 years

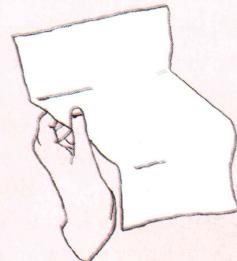
In 1964, at the peak of the British Invasion, a 14-year-old girl in Inglewood, California, wrote to a British pop magazine requesting a pen pal whose fervor for the Beatles matched her own. She received a flood in response, and, unable to reply to all the letters herself, she spread them across a table in her ninth-grade English class. One of her classmates, Ellen Bloom, read through each until she came across one with tidy handwriting and a dry sense of humor. The letter belonged to Diana Lamb, a girl her age from Teignmouth, a small coastal town in England. "You are probably wondering why I am writing to you and why this letter is so late in coming," wrote Ellen in her first letter to Diana. "Through quite a bit of maneuvering, your letter came into my hands." In the decades that followed — as they went to college, entered the workforce, married, had children and grandchildren — Ellen and Diana never stopped writing. What follows are excerpts from Diana's letters. Ellen has kept every one.

— JOY SHAN



April 5, 1965

Dear Ellen,
I am afraid I can't send you a photograph of myself yet. The only recent one I have was taken at a wedding, where I was singing in the choir. In it, I am wearing a cassock and surplice, and I look too good to be true! As I'm not, I should hate to give you a false impression of myself. One boy at school thinks I am square, but I'm not, just because I like Tchaikovsky. I like ballet music and also fast, loud music. But I'm NOT square.



he's awake. He likes lots of "eye contact" and I'm sure you know that gazing for hours into a baby's eyes can be a mind-blowingly boring occupation.

May 14, 1968

Dear Ellen,
I'm not married but we've got some new laws. I can now get married when I'm 18 years without my parents permission! There's just one slight disadvantage. Nobody's asked me! Never mind, I've got 5 months to go yet. Quite honestly, though, I don't reckon on getting married till I'm about 22, 23. I value my freedom too much. How about you?

July 13, 1975

Dear Ellen,
Tell me all about Rick. What does he look like? What does he do? Can he afford to keep you in the manner to which you would like to become accustomed? (get that syntax!) Where are you going to live? I know I'm nosy — you'll just have to put up with it! Shall I tell you about married life? Like having to cook for them, sew on their buttons, iron their shirts, clean out the bath for them, etc etc? Actually though mine's quite good — right now he's hoovering the bedroom.

August 30, 1976

Dear Ellen,
Thanks for your congratulations on my promotion, though they were premature as I'm still doing the same thing. In February we employed a new typist who only stayed a week because she didn't like me! So we got another girl who wasn't much good. Then we got another girl to take over my job and I went on holiday. While I was away, the new "me" decided that the not-good typist wasn't any good and fired her. So far I've been doing bits of my old job while the new "me" learns her way around. I must be the most highly paid typist in London!!

From: Diana

Sent: December 4, 2009 8:29 PM

My mother fell at the beginning of October and broke her hip. She was in hospital for nearly 5 weeks and has been home now for 3 weeks but she's not at all the same. She gets very tired very easily. Things are only going to get worse and who is going to look after us when the time comes? (Note to self — be nice to children, especially daughters!)

From: Diana

Sent: February 2, 2019 10:29 PM

Hi Ellen,
I think the parallels are interesting — we both lost our dads in our teens and then you came to London when your mum died. And we have both married similar sorts of professional men and tried to live similar sorts of vaguely useful lives. Then the differences are that I am so restless and always on the move and you like to be settled and snug. We probably ought to keep quiet about our somewhat oddball sons.

September 20, 1987

Dear Ellen and Rick,
It's only 8:10 PM and the children are all in bed. Life changed completely when Tom arrived — he is the worst baby I have had! During the day he often sleeps erratically and he's generally pretty miserable when



The father and daughter who draw instead of write

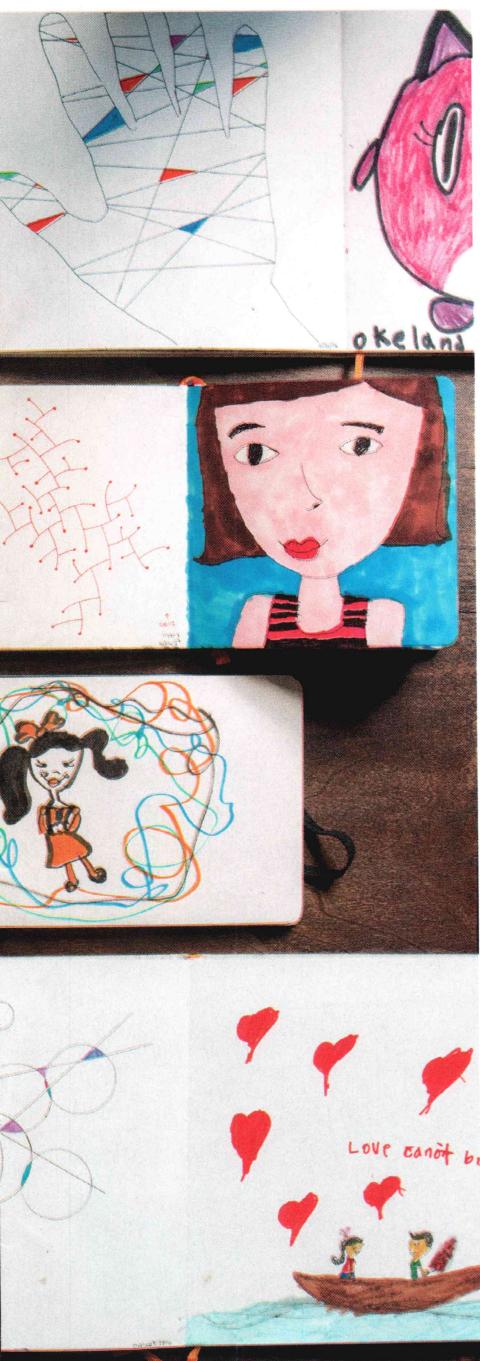
When Wesley Grubbs and his daughter, Lyra, began to draw together, they came up with only one rule: He stays on the left page of the book, and she stays on the right. About four years ago, when Lyra was 6, her parents were going through a difficult divorce. Lyra has autism, and drawing calmed her — it was a way of regulating herself, especially during periods of upheaval. So whenever she and Wesley were together, they'd draw. Wesley would stick to geometric designs, while Lyra explored her fascination with animals

(cats, piranhas, owls) and human figures (she especially loved to practice drawing women). Occasionally, one will respond to the other through drawing, adapting the other person's color scheme or use of shapes. After an argument one night, Wesley flipped to a blank page and wrote, "Lyra, you are beautiful." Later, he found her response on the adjacent page: "Dad, you are hansom." Wesley and Lyra completed their first book in 2015 and are now at work on their 12th.

— JOY SHAN



North Korean defectors writing open letters to loved ones on the other side



For the 31,500 North Korean refugees living in the South, it's the remembering that's the hardest. They're haunted by memories of siblings and parents, teachers and schoolmates, whom they left and may never see again.

In the afterglow of inter-Korean summits, last August the Red Cross organized reunions for 172 lottery winners. These separated Korean family members, 83 living in the North and 89 in the South, were allowed to spend 11 mostly monitored hours together at a North Korean mountain resort.

Such reunions are rare, and defectors from the North are barred. Those divided by defection must find other ways to make contact. But without a postal service, phone service, or an internet network connecting the two Koreas, it's nearly impossible.

In the North, some who live close to the Chinese border try to make calls on smuggled mobiles. In the South, some hire expensive Chinese brokers to deliver messages. Others turn to the shortwave radio. The defectors write letters and read them aloud on the *Bluebird Post*, a radio program based in the South that reaches the North. Then they hope and they wait.

— ANN BABE

To my nephew Young-chul who may now be a father in your 50s,

How are you? It has been several decades already since I left North Korea so, to be honest, I need to close my eyes to remember your face.

I want you to forgive me for never treating you to a nice meal before as an aunt. I could not take care of you because my life was too busy. I sincerely miss you, the one and only family of my brother.

Young-chul, can you remember the times of North Korean famine? Our family ate everything we could chew including bark and potato peels. When I came to Korea, I found out that even animals were eating better than North Korean people. I still don't understand how people living under the same sky have such different lives.

From Geum-sun Bang, your aunt in Seoul

To my precious and beloved daughter Myung-shim,

I am so thankful that you were born and I have loved you ever since. I don't understand why you, someone so innocent, has been put in prison for trying to go to South Korea. I think of you all the time, wondering if you are still alive, and if you are, how you might look now.

To live as a mother not knowing if my own child is alive is worse than death. The only reason I am still enduring is to hear news about you.

Since your dad passed away so early, it was exhausting raising four children by myself. But whenever I saw you, you gave me energy. Myung-shim, please promise me that you will live safe and sound and will return to me.

From Wol-seon, your mother who is waiting for you every day

Dear Chun-sik, my lovely brother,

Many years have passed since I have been apart from you. I desperately think of you from afar, worrying if you may be cold in cold days or hot in hot days. I keep thinking about what you look like now, what you ate today, whether you are healthy or sick, or if you think of me.

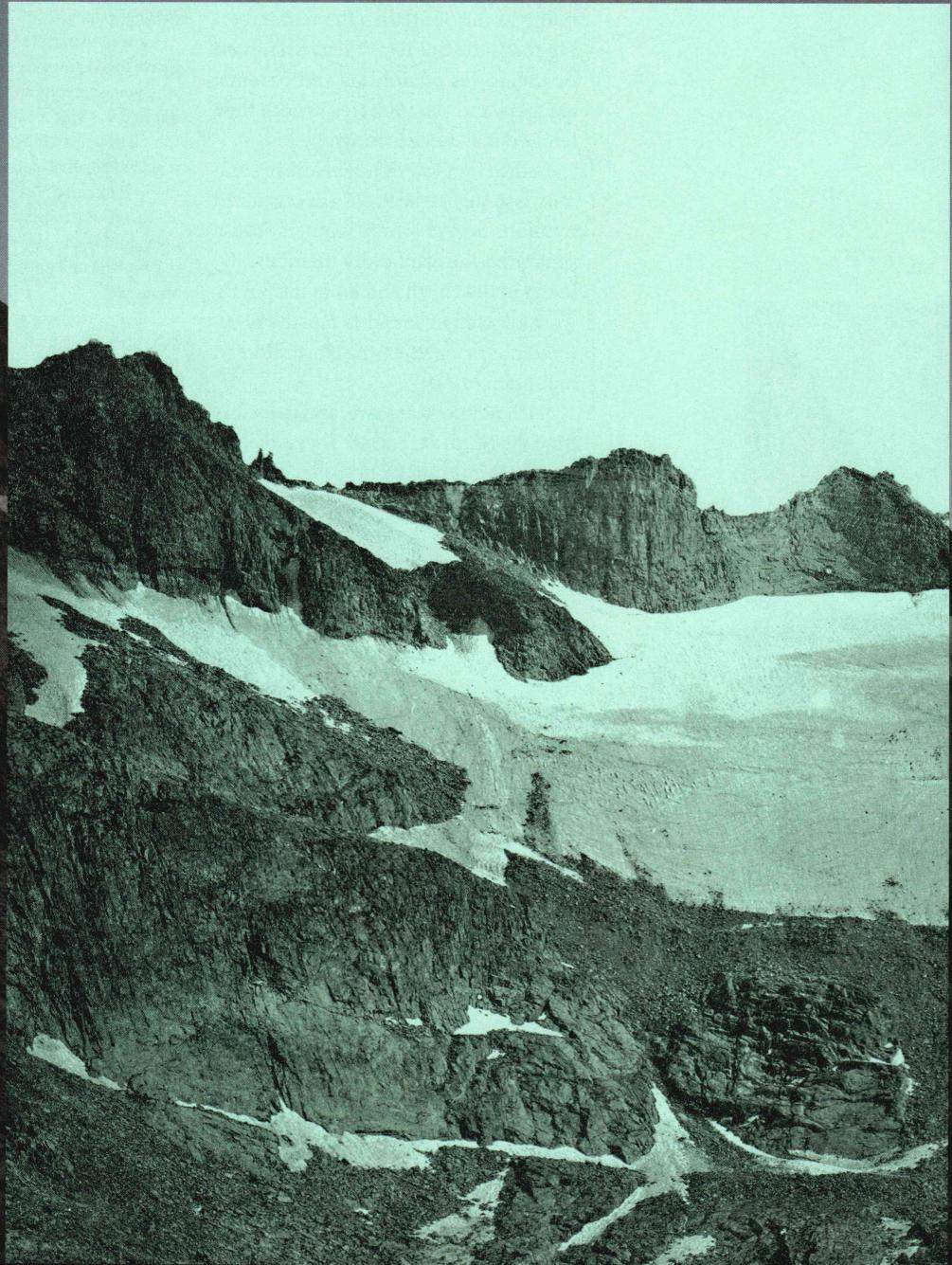
Do you remember the day I left? My eyes were filled with tears thinking about whether we can see each other ever again. I kept looking back until you looked like a small dot. You waved back at me for a long time.

Today I walked on a mountain that was starting to sprout again after the cold winter. If I kept walking on that peaceful path, it would lead me to where you are living. When will the day arrive?

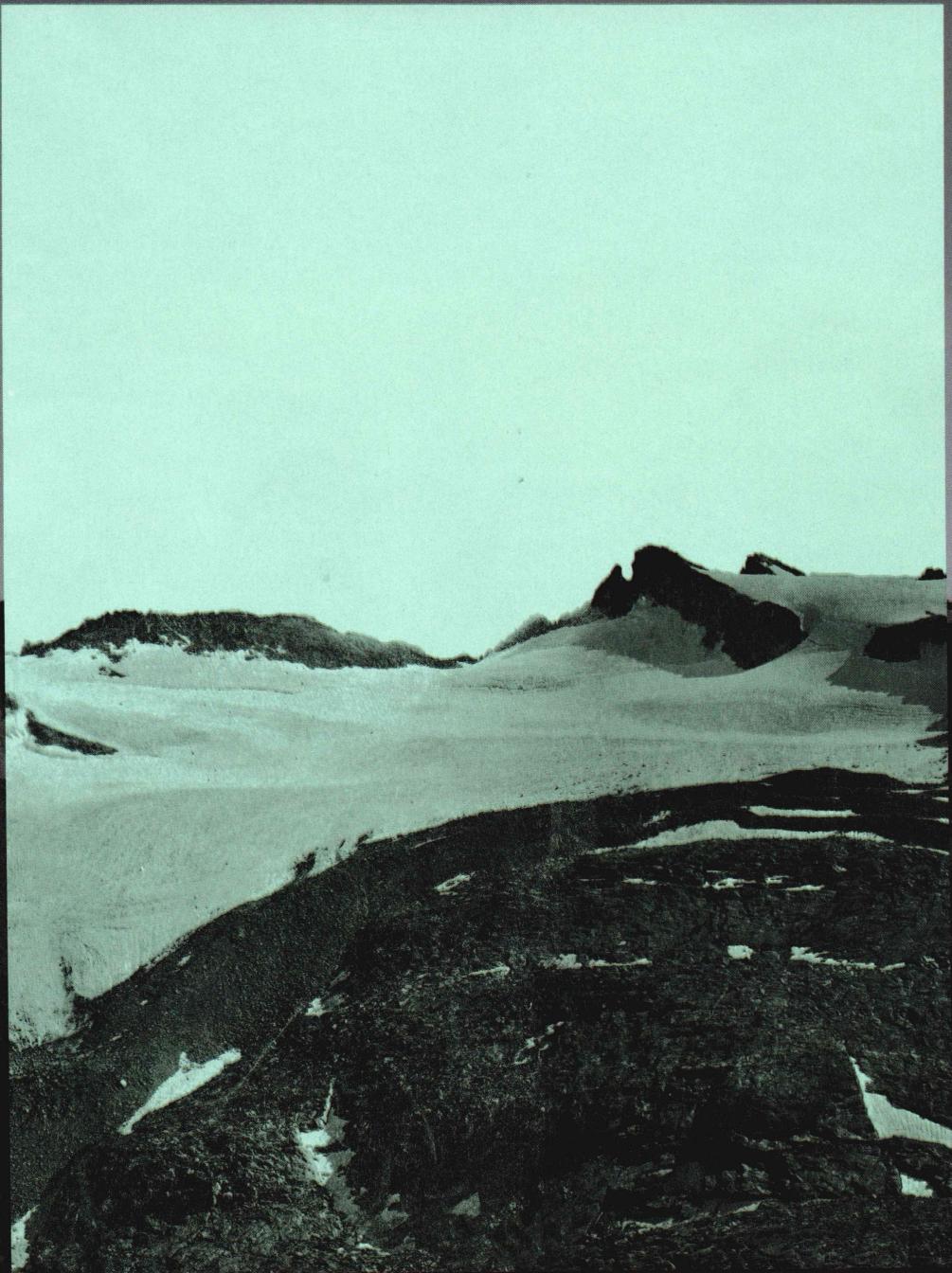
Longing for a new spring and unification, your sister Bok-seon in Seoul



1883



For the past 148 years, Yosemite's Lyell Glacier has taught us about the Earth —



how it was created, where it was going,

WHAT

2018

and now, how it might end.

REMAINS

By Daniel Duane / Photographs by Nicholas Albrecht

ON A COOL SEPTEMBER MORNING IN 2014,

among lodgepole pines under blue mountain sky, Greg Stock shouldered a backpack full of camping gear and scientific equipment. Boyishly slender and athletic at 45, Stock is a climber, caver, and serious reader of books about mountaineering and the natural world. He holds the enviable job title of Yosemite National Park Geologist and mostly loves the work, especially the part he was bound for that day — the study of Yosemite's last two glaciers.

Stock and several companions started their walk in Tuolumne Meadows, the high-country jewel of Yosemite and everything that I would ever wish to find in the pastures of heaven — many square miles of grass and wildflowers surrounded by white granite domes that reflect sunshine like polished glass. Stock followed the John Muir Trail south out of those meadows into an immense U-shaped gorge called Lyell Canyon, 8 miles long and 3,000 feet deep, carved out of granite by long-vanished glaciers during dozens of ice ages. Evergreens dot the sloped walls of Lyell Canyon — straight lodgepoles down low, bent whitebarks up high.

In that drought year of 2014, dry meadow grasses carpeted the canyon floor in pale gold. Down the middle, the Lyell Fork of the Tuolumne River trickled through wide, meandering oxbows. The great irrigator of Tuolumne Meadows and drinking-water source

for San Francisco, that river thunders deep in spring but flows in autumn thanks to meltwater from Stock's destination, the Lyell Glacier.

Seven miles into Lyell Canyon, Stock kept an eye out for white rocks in the grass. If you didn't know what to look for, you would never find those rocks, much less guess they marked a particular spot. When Stock saw them, he turned east off the John Muir Trail and down into the mostly empty channel of the Lyell Fork. He hopped across the shallows and then walked into the center of the canyon.

Stock poked around in the grass for another pile of rocks, which marked the spot where, in 1883, a geologist named Israel Russell looked 4,000 vertical feet up to the jagged summit of Mount Lyell, 13,114 feet above sea level and the tallest peak in Yosemite National Park. Standing right there, Russell took the first known photograph of the Lyell Glacier, which John Muir had found only 12 years earlier. In Russell's photograph, 13 million square feet of ice spread like a white shawl across Mount Lyell's black metamorphic shoulders.

Geologists and park employees have been returning to Russell's photo point — and to the glacier itself — on a more or less regular basis ever since, replicating Russell's images to create a scientific record 135 years old and counting. Stock has been the keeper of that tradition for over a decade, making the trip through Lyell Canyon more than 20 times to check the glacier's vital signs. He has put gauges in runoff streams to measure meltwater trickling out of openings at the toe of the glacier. He has studied data from

NASA's Airborne Snow Observatory, an airplane outfitted with advanced sensing equipment that calculates the water volume in the Sierra snowpack and ice fields. Using much of the same technique that Muir did in 1871, Stock drove stakes into the Lyell to measure the downslope creep of ice that defines a glacier.

Like everyone who has ever studied the Lyell — and pretty much everyone who has ever studied any glacier — Stock documented shrinkage. The Lyell has lost depth and retreated upslope and broken into a smattering of white Rorschach blots that, as of 2014, amounted to about 3 million square feet of ice. In 2012, Stock had collected data showing that the main lobe of the Lyell was not flowing downhill. The pleasure of working in that quiet alpine sanctuary kept him coming back in a spirit of optimism. Still, when Stock looked through his camera's viewfinder at the largest of the Lyell's remaining white blots, in 2014, he was surprised to see that a familiar dark patch had grown much larger.

Stock led his companions farther south along the John Muir Trail to where it climbed up through forest toward Donohue Pass. At a wooden bridge across the river, Stock turned west off trail. Up rocky slopes, they came to the shores of an hourglass-shaped blue lake in a bowl of white stone — cooked dinner, slept in sleeping bags. In the morning, after breakfast, they hiked another 1,200 feet up to the main lobe of the Lyell, a broad and steep mass of ice in a quiet cirque of shattered rock. Stock felt like a man coming home after a long absence, comfortable and eager to catch up. He decided to have a close look at that dark patch.

"I remember noticing that it was right under an avalanche chute in the headwall below the summit," Stock says. Perhaps it was just rock debris from some long-ago slide, embedded in the glacier surface.

The Lyell Glacier hangs at a severe angle off the mountainside. To slip and fall can mean a long, fast plummet. Stock wore crampons on his boots and carried an ice ax as he stepped onto an ice field riddled with sun cups, bathtub-sized depressions that forced him to walk along blade-thin ridges between them. Standing at the edge of the dark patch, Stock got a terrible feeling.

"I just knew. That's bedrock. Your wishful thinking that that's debris can't possibly be right. The next thought was, If that's bedrock, there can't

be much glacier left." Letting his eye roam the periphery of the ice and visualizing mountain contours beneath the main mass of the glacier, Stock struggled to form a mental model in which the glacier maintained significant volume. He could not picture more than about 20 or 30 feet of thickness. Given the Lyell's melt rate, it would disappear in four or five more years of drought. The shock of this realization forced Stock to confront what the data had been hinting at: The Lyell was no longer a glacier at all. Put another way, the Lyell Glacier was already dead, and Stock was the last person ever to study it.

GLACIERS USED to be fun, even thrilling. It's hard to believe now, but there was a time when geology was much like genetics today, the cutting-edge inquiry that routinely delivered breathtaking insights that captivated the educated world. Many of those insights, starting in the mid-1700s, had to do with the age of the Earth, as people looking closely at rocks found evidence that our planet was a lot older than the 6,000 years suggested by the Old Testament — perhaps many millions of years older. For this reason, the 19th century is said to have discovered "deep time," the astronomical and geological time scales that reach into pasts so distant that our minds struggle to imagine them.

An academic cottage industry sprang up to reconcile deep time with Scripture — arguing, for example, that the Book of Genesis actually described two distinct geological periods separated by an immense span of time and the original authors simply left out those middle zillion years. As for how landforms like mountains and canyons got themselves made, religiously minded geologists inclined toward so-called catastrophist explanations

consistent with the Bible's depiction of mountain ranges created in a day — massive earthquakes, cataclysmic volcanic eruptions. Across Northern Europe, geologists documented curious scouring and scraping marks on bedrock, running in a more or less north-south direction, and decided they must be evidence of the flood that provoked Noah to build an ark.

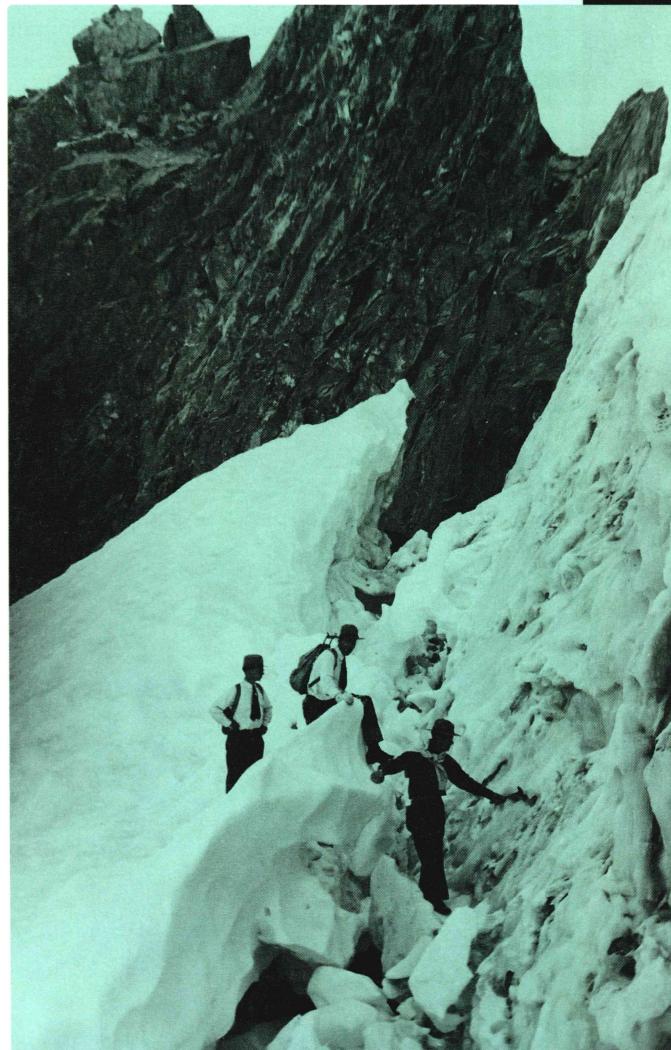
Charles Lyell, a Scottish geologist and namesake of the mountain and glacier, proposed a counter-theory known as uniformitarianism, under which landscapes were shaped by extremely slow-moving forces still active in the present day, like sedimentation on seafloors — and the rock-grinding effects of glaciers. Lyell's contemporary, the Irish geologist John Tyndall, happened also to be an important player in the golden age of mountaineering, making first ascents in the Alps. His book *The Glaciers of the Alps*, published in 1860, was a hit with British men and women who traveled to Switzerland, where they walked out onto glaciers to learn about how all that ice carved and sculpted the mountains beneath and how those scouring and scraping marks on Northern European bedrock were likely caused by mile-thick ice sheets that had covered much of the Northern Hemisphere during some long-past ice age.

Around the same period, a militia hunting indigenous people stumbled upon Yosemite Valley. Within three years, the first tourists entered Yosemite, and word got out across the United States and Europe that a new wonder of the natural world had been found at the western edge of the American empire. Leading American geologists like Josiah Whitney and Clarence King looked all over the Sierra for glaciers and speculated about how the great cliffs of Yosemite Valley came into being. Neither found glaciers,

LIKE EVERYONE WHO HAS EVER STUDIED THE LYELL GLACIER — AND PRETTY MUCH EVERYONE WHO HAS EVER STUDIED ANY GLACIER — GREG STOCK DOCUMENTED SHRINKAGE.

and Whitney carried the day with the catastrophist argument that Yosemite Valley's floor had collapsed downward, leaving behind monoliths like Half Dome and El Capitan.

John Muir was an unknown Yosemite hospitality worker at the time, a college dropout and Civil War



A National Park Service team studying glaciers in Yosemite in the 1930s

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draft dodger, but he'd studied geology at the University of Wisconsin. He knew about theories of the ice age and thought it plain as day that glaciers carved Yosemite. When contemporary experts mocked him, he hiked into the high country, identified the Lyell, and drove stakes into an ice field on the upper flanks of the adjacent Mount Maclure. Over 42 days in late 1871, Muir measured the downslope movement of his stakes to prove that this ice field was, in fact, a glacier, the first confirmed in the Sierra Nevada. He published the results along with descriptions of the Lyell and neighboring glaciers in articles for the *New-York Tribune* and *Overland Monthly* that made a curiously big splash and introduced the Lyell Glacier to the American public as both a remnant of the ancient engine behind Yosemite's

creation and still more evidence in our collective awakening to the soothing eternities of deep time.

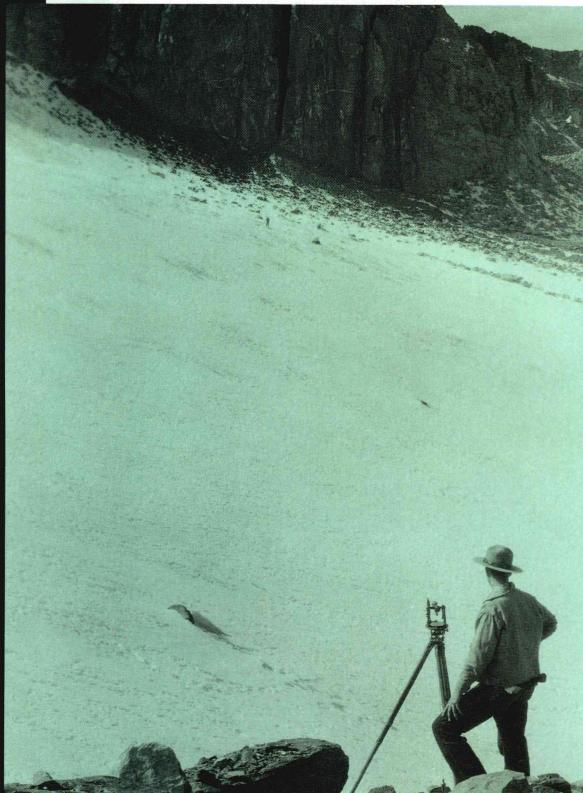
STOCK'S JOB has its mundanities, like middle-of-the-night phone calls from rangers explaining that, yet again, a boulder has tumbled onto a park road, and he has to jump out of bed and grab a flashlight and go look at the surrounding cliffs to evaluate whether more boulders might fall soon. That's pretty much impossible with current technology, but somebody has to make a judgment — if only so rangers can know if they should close the road — so Stock does his best.

Mostly, though, Stock lives a mountain lover's dream life. His research into the causes and patterns of rockfall allows him to make on-the-clock ascents of El Capitan and Half Dome. He also shares a cabin with his wife, Sarah Stock, who has the equally enviable job of Yosemite National Park Wildlife Ecologist — with mundanities of its own, like roadkill mammals that routinely appear in the family freezer, courtesy of well-meaning park employees who've heard that such corpses aid Sarah in research, which they do.

The Stocks' living room window looks directly up at Yosemite Falls. Bookshelves carry works by Wendell Berry, Henry David Thoreau, and, of course, Muir, who wrote such impassioned letters about glaciers to an older married woman he was courting that she felt compelled to tell him that ice ages horrified her and she much preferred flowers. (Muir insisted that glaciers were angels with folded wings; she replied, "My spirit was converted by your lovely sermon, but my flesh isn't.")

The story of Muir's insight into glaciers and Yosemite — the simple-hearted shepherd outdoing the professionals — struck such a cultural chord that it remains central to the legend of Muir as nearly every California schoolchild learns it: our very own long-bearded prophet who read the Book of Nature in the ice and then spread the word about the saving power of wilderness, ultimately convincing our forefathers to create national parks. For Stock, who grew up in a small Gold Rush town near Yosemite and read Muir in college before getting a doctorate in geology at the University of California, Santa Cruz, his work on the Lyell Glacier was more than just a chance to participate in a great research lineage. It amounted to living inside the origin myth of California's secular religion — the faith that routine exposure to our mountains and coastline will lift our lives and spirits.

The ice age, of course, by Stock's time had long since come to be understood as not just one glacial period but a 2.5-million-year geological epoch known as the Pleistocene, during which glaciers advanced and retreated on a roughly 100,000-year cycle. Those regular cold periods seemed to have been caused mostly by standard fluctuations in Earth's orbit and rotation and resulting changes in how much of the sun's warmth reached the planet's surface. Traces of at least four of those glacial cold periods had been identified in the Sierra Nevada. An early Yosemite geologist named François Matthes was responsible for



identifying a more recent and peculiar glacial advance called the Little Ice Age, which started abruptly in

about 1300, gave birth to the accumulation that became the Lyell Glacier, and got so cold in 1780 that New York Harbor froze solid. People walked from Manhattan to New Jersey. Sometime around 1850, two decades before Muir drove his stakes

into the ice, the Little Ice Age ended with equally strange abruptness, and the Lyell began to retreat.

Stock knew, in other words, that the retreat of the Lyell was the latest in a long sequence of glacial retreats reaching back through time. But he also knew that this retreat was different because the Earth should have kept right on cooling into a broader glacial advance consistent with orbital cycles. Instead, the cooling associated with the Little Ice Age, and therefore the growth and expansion of the Lyell, reversed by about 1900 — likely because the Industrial Revolution led to coal-burning and climate change.

Geologists are not like wildlife biologists. Stock's wife, Sarah, went into biology knowing that her work would involve bearing witness to innumerable deaths of individual animals, occasional extinctions of populations, and, given the age in which we live, even extinction events. Geologists, by contrast, go into their fields with a tacit commitment to the study of change but across vast time scales and involving such indisputably inanimate materials that it



OPPOSITE
Measuring the Lyell in 1934

LEFT
Greg Stock behind his cabin in Yosemite Valley



*At the foot of the
Lyell Glacier*



amounts to the study of no change in the context of no life and, therefore, of no death.

"There's this sense among geologists that you build on the work of others," Stock says, "and others will build on your work, and that goes off into infinity."

Nothing in Stock's professional life has prepared him to be the man who presides over the last days of a glacier, much less the end of an entire geological epoch in which glaciers have come and gone. "I suppose I was a little naive, thinking geologists didn't have to deal with this," he admits. "I've started to interact with geologists around the world, scientists who've dedicated their lives to studying glaciers and ice fields, and it's tough for all of us to realize that we're studying a system in decline, the demise of the cryosphere, that frozen part of the world."

In bedtime discussions with his wife, Stock says, "She's reminded me that all it would take to restore the glaciers would be a change in the climate — more snow and cold enough temperatures for it to pile up. My response is, 'Tell me when we're going to have the next ice age.' I feel like she's lucky in that she and other biologists can be more hands-on in fighting to restore a species. I feel sort of helpless."

Granite bedrock in Lyell Canyon



**THE 19TH CENTURY IS SAID
TO HAVE DISCOVERED “DEEP TIME,”
THE ASTRONOMICAL AND GEOLOGICAL
TIME SCALES THAT REACH INTO
PASTS SO DISTANT THAT OUR MINDS
STRUGGLE TO IMAGINE THEM.**

I JOINED STOCK on his annual hike last fall, south from Tuolumne Meadows along the John Muir Trail to Israel Russell's old photo point, then up Lyell Creek to the hourglass lake. On a cold, clear morning after coffee and breakfast, we walked around that lake while a breeze ruffled the water into tiny blue waves aglitter in the sunlight.

If I had not been with Stock, I would have thought what I always think in that country, which is that I love windy silence and rocky emptiness. Because I was with him, I began to see that familiar landscape more the way he sees it — not as a beautiful yet random jumble but as the coherent product of known forces that left traces everywhere, as obvious as chip marks on an unfinished block of marble in a sculptor's studio. Beyond the lake, we hiked upward on the smooth granite that is the most distinctive feature of the Yosemite high country, formed when underground reservoirs of molten stone cooled slowly over many millions of years into brilliantly hard and solid undulations of bedrock. Higher up, we climbed onto blackish-gray metamorphic rock that ran crumbling

up to the broken summits — remnants of lava that erupted from those same underground reservoirs and cooled swiftly in the open air.

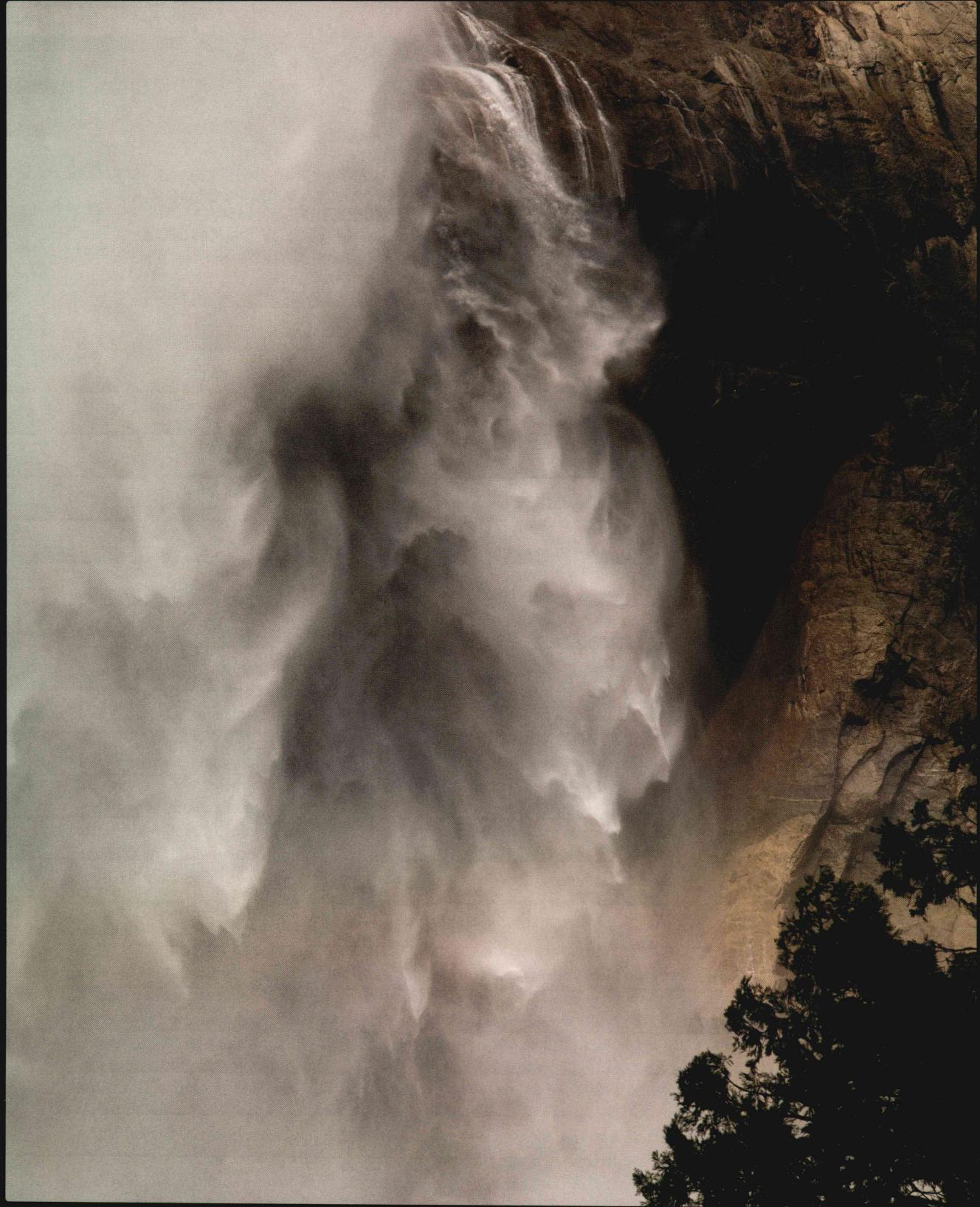
Stock then led the way onto a giant unstable pile of metamorphic rock — a teetering heap of boulders known as a glacial moraine — and explained that glaciers are conveyor belts, not bulldozers. Glaciers don't really push material in front of them, it turns out. They pick up loose bits and chunks of mountains, either by fracturing bedrock and plucking material beneath the ice or by collecting rock that falls from surrounding walls. The ice river then carries those bits and chunks — from pebbles to house-sized boulders — ever so slowly downhill until, at the lowermost tongue of the ice, it sets them gently down, each atop the next.

Stock pointed out lines along mountain slopes that marked the uppermost boundaries of various glaciations. He indicated which peaks and knife-thin ridges had poked into the sky above the vast ice sheet that once covered everything around us. Finally, Stock brought me to the toe of the Lyell's main lobe, a steep mass of ice 60 acres in total surface. We sat in the gravel at the base of the glacier to drink and rest.

When I climbed up onto the glacier, its physicality became overwhelming. I could hear a million tiny meltwater veins and arteries crisscrossing over and under the surface to create a fragile lattice of ice that crunched underfoot. Melt begets melt, and that lattice contoured across the bathtub-sized sun cups. Pooling water filled the sun cups until it spilled

over the white ridges between them. Cylindrical holes, ranging in diameter from a dime to a baseball, held dead songbirds and little rocks and even insects that, in the darkness of their coloring, gathered enough solar radiation to melt a path downward, creating tube-like shafts as they went.

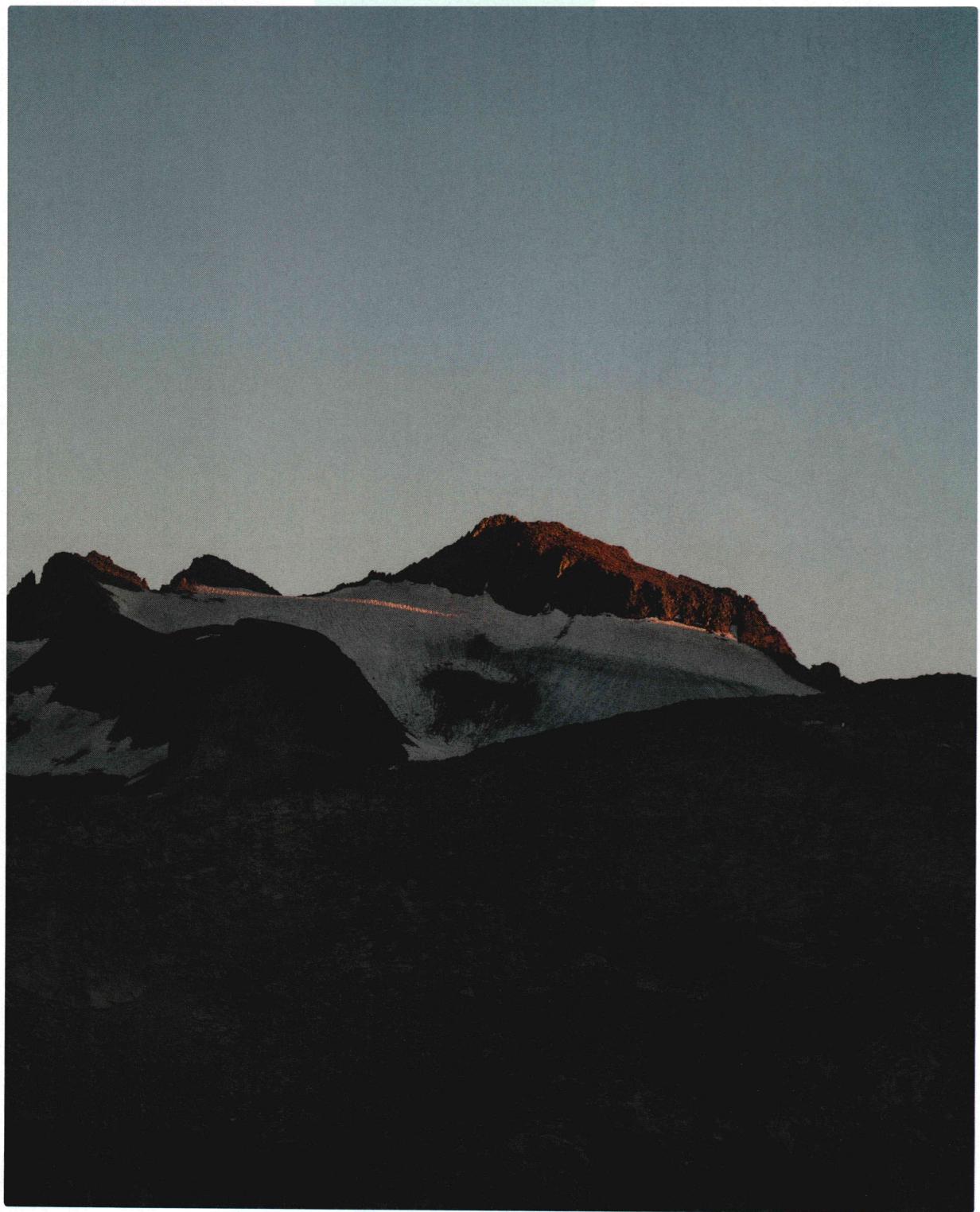
The geologist Marcia Bjornerud, author of *Timefulness: How Thinking Like a Geologist Can Help Save the World*, told me that she once studied glaciers in the Norwegian archipelago of Svalbard and felt a temptation to think of them as alive. Meltwater in a stream on the surface of one glacier, she recalls, ebbed and flowed like a heartbeat. She was struck by how glaciers absorb snow on their uppermost reaches, digest that snow into ice, move that ice downhill through their glacial bodies, and then release it back into the world as liquid melt. In my own wanderings on glaciers, I've seen crevasses open like orifices, heard moaning sounds from inside, watched boulder-sized blocks of ice



Upper Yosemite Falls



Mirror Lake



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creak over slow-motion waterfalls known as icefalls. It all conjures a feeling similar to that elicited by ancient coastal redwoods or breaching whales. I like to think of this as the living sublime, a tingling awareness that the universe is more complex than our capacity for understanding and that much of what makes it beautiful is fragile and fleeting.

The pleasures of the sublime have a lot to do with my return to the high Sierra year after year, and there is something depressing about the knowledge that I will now have to confront the fragility of those mountains. Once Stock and I reached his dark spot on the Lyell, though, and sat on one of many wet boulders jutting up from the bedrock, and looked out across all

those ridges and moraines, I felt the stirrings of something darker still. The end of the Little Ice Age, as punctuated by the death of the Lyell, marks the true end of the entire 2.5-million-year climate regime in which glaciers have advanced and retreated and *Homo sapiens* have evolved. We don't know what comes next, except that it will involve a warming climate unlike any that has ever supported human beings.

Back in the early 19th century, and even through Matthes's work on the Little Ice Age, the study of deep time carried soothing reassurance that old biblical nightmares about catastrophic upheaval were just that, nightmares. The Earth changed and always had changed unimaginably slowly. Now the study of deep time trends toward a different lesson — that Earth changes unimaginably slowly except when it changes suddenly and catastrophically, like right now. Even the driver behind our current warming — abrupt changes to the atmospheric carbon cycle — is not new, having happened at least five times in the past 500 million years. Knowing that human-driven climate change is not so different from dramatic climate changes in our planet's past offers little comfort when you consider that they all ended badly, with the mass extinction of most living things.

The view of Lyell Glacier from the peaks of Lyell Canyon

I will probably find a way to keep such thoughts buried when I go back to the Sierra. Maybe I'll even manage the cosmic trick of reminding myself that we are all stardust anyway. As for Stock and what he will do when the last of the Lyell's ice melts into that little creek bed and flows downhill, he surprised me by saying that he thinks about maybe working in a different park someday, like the Grand Canyon — far from any glacier and back in the realm of no change, no life, no death. ¶

DANIEL DUANE's work has appeared in *The New York Times*, *Food & Wine*, and *Men's Journal*, among other publications.

NICHOLAS ALBRECHT was born in Naples, Italy, and now lives in Oakland. He is currently working on a project in Southern California, *Artifacts From the Desert and the Impossible Search for the Atomic Device*, about the desire to create a weapon of mass destruction.

Her



Debra Koosed was diagnosed with dementia at 65.
That's when she decided she no longer wanted to live.

By Katie Engelhart
Illustrations by Nick Runge



It was early

January 2018 when Debra Koosed started working on her taxes. Or was it mid-January? She knew it was January. She knew that she would get confused and would need the extra time. Months, even. Soon, Debra was spending several hours a day bent over the paperwork, her soft body in the heavy wheelchair, pulled up to the round kitchen table that looked out on the Oregon coastline.

Why, Brian wanted to know, was she so intent on filing her taxes anyway, given what she planned to do?

Because she wanted her affairs to be in order. Because she did not want things left unfinished. "I am tying up loose ends," she told him. But when Debra looked down at the tax forms, it was as if the pages lost their outer borders and the words danced away.

Her small home was quiet, save for the beeps and vibrations coming from her late-husband David's cellphone: alarms reminding her when to eat, when to take her medications, when to water the plants. In the mornings and evenings, there were alarms to open and close the curtains in the living room and, at regular intervals throughout the day, alarms prompting her to use the bathroom because she did not always remember to go and would sometimes have accidents. Debra imagined that David's cellphone was David himself, re-embodied, a year after his death, and ministering to the needs of her failing body and rotting mind. "I used to be a Maserati," she liked to say. "Now I'm a clunker."

The neuropsychologist had used another word, which was "dementia." At Debra's appointment, a few months earlier, he had told her what she already knew: Things were not all right. MRIs showed that the frontal and parietal lobes of Debra's brain had atrophied — were atrophying. The atrophy was already at a "moderate" stage. During the appointment, Debra could recite the alphabet and count to 20, but she could not recall the day of the week or where exactly she was. She was 65.

After the appointment, Debra started having visions of life in a nursing home, lost and unglued. Doctors would ignore her, and nurses wouldn't know how to position her in just the right way so that she wouldn't be in pain. She would forget how to think. She would forget how to chew and swallow. The other patients would cry and moan, and they would feed off one another — each patient nudging the next into ever more hysterical and demented states. It would not be a nice facility because Debra could not afford a nice facility. In Debra's vision, things would be worst

at night. "Strangers are touching me. People are going through my personal life. Touching me in a way that might be inappropriate." If it happened, would she even know that she was being hurt?

Debra said that if she were a dog, someone would have put her down long ago. She had euthanized sick dogs before, dogs she loved, and even as a child had understood the act to be merciful. "*I thought, Wow, this is such a wonderful thing, that I am able to ease the suffering and pain of my beloved.*" When Debra watched her grandmother die, she wished "there was something we could do for humans."

Sometimes the question was *if*. Usually, though, it was *when*. Debra said that she would kill herself before she lost herself completely. She would wait for as long as she could because she did not want to die, but she wouldn't wait too long. "I have to be cognizant in order to do it," she told me. Brian would show her how to do it, but he couldn't help. "No one can help me because that's murder. I have to do this on my own, so I have to go at a time when I still feel I know what I'm doing." For the moment, there were still good days and bad days — soon, though, a bad day would stay a bad day, and then she would vanish.

BRIAN RUDER read through the application package slowly. He had worked with clients like this before — people with fresh diagnoses of dementia — but never someone so young. "I'm writing this letter to request the services of the Final Exit Network in hastening my death," the applicant, Debra Koosed, had written in her introductory letter. "I'm hoping you can help me... before my brain robs me of ALL my dignity." Not every would-be client was as circumspect. Sometimes people got scrappy in their pleas for help in a "If you don't help me, I'll blow my brains out" kind of way.

Brian, who is 77, was born to a German Catholic family in Kansas. He was raised to fear God: certain that the taking of one's life was a mortal sin, a degradation so complete that it fell beyond the bounds of His mercy. As Brian grew older, he shed his faith and acquired, in its place, a firm devotion to the secular tenets of personal

Brian read through Debra's application package slowly.
He had worked with clients like this before — people with fresh diagnoses of
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Brian Ruder,
Debra's exit guide

autonomy, especially as they concerned the end of life. "I don't believe in letting doctors decide when I should die," he told me. Now that he had lost his God, there was no redemption to be found in anguish, no transcendence in pain. There was no purpose to pain at all. "I don't believe in suffering," he said. When Brian left his corporate job in Portland, he started volunteering with Compassion & Choices, a national nonprofit group that lobbies state legislatures to legalize physician-assisted death.

Twenty-five years ago, voters in Oregon passed Measure 16, making Oregon the first state in the nation to legalize what was then

called "assisted suicide," but which now, in the vocabulary of political lobbyists who wish to distance their movement from the laden s-word, is often called "medical aid in dying." In 1994, advocates hoped that Oregon would give other states the moral impetus they needed to pass their own equivalent "death with dignity" laws. Many proponents saw their movement as the logical continuation of other grand progressive battles: for the abolition of slavery, suffrage, and desegregation. Baby boomers, the theory went, had seen their own parents die ugly, protracted hospital deaths and wanted another way.

But the post-Oregon optimism did not quite play out. Over the past quarter-century, dozens of states debated and rejected Oregon-style statutes. Only six states and the District of Columbia have passed them. (In Montana, physician-assisted death was made legal by a state Supreme Court ruling.) Numbers within Oregon have also remained small. In 2018, 249 terminally ill people received lethal prescriptions under the law, and just 168 took the drugs.

To qualify for assisted death in Oregon, a patient must be over 18, mentally competent, and terminally ill and have, in the estimation of two doctors, six months or fewer to live. The patient must also take the medication herself — since only assisted dying (where a patient self-administers

lethal drugs, usually by drinking a powder solution) and not euthanasia (where a doctor administers the drugs, usually intravenously) is allowed. Last year, the great majority of people who used the law in Oregon had terminal cancer (62.5 percent). Left ineligible are other kinds of patients: people with chronic pain that has no likely endpoint, degenerative disorders like multiple sclerosis that don't fall into tidy six-months-or-less timelines, and physical conditions that leave a person unable to ingest medication. The law also excludes people with dementia — since, by the time

Once, on the phone with me, Debra cried and said that she didn't recognize herself anymore. "I loved my brain."

a dementia patient is within six months of death, she will likely be too far gone to consent to much of anything. It seemed to Brian that the Oregon law recognized only a narrow sort of pain. It only helped people who were going to die soon anyway.

In 2015, while researching online, Brian found out about the Final Exit Network (**FEN**): a network of volunteers who teach people how to kill themselves and then sit with them when they do it so they won't be alone. **FEN** had grown out of the Hemlock Society, a right-to-die advocacy group founded in 1980 and named for the poison that Socrates drank before weeping supporters in Athens. The Society led death-with-dignity initiatives in a handful of states, but in the early 2000s, the group underwent a bitter schism; most members went on to form Compassion & Choices, and a much tinier faction reconsolidated as **FEN**. Brian made contact with **FEN** and signed up to train as an "exit guide."

At a two-day training session in San Jose in 2016, Brian was schooled in the **FEN** protocol. He learned that while **FEN** guides were there to help people die, they couldn't help in the literal sense. Though suicide is legal in every state, the act of helping someone commit the act is illegal. The rule that **FEN**'s leadership came up with — the rule they hoped would keep the organization free from prosecution — was that exit guides could instruct and advise and sit with but could not touch a client. At the training session, Brian watched a demonstration of the network's suicide method: inert gas asphyxiation, using a sturdy plastic bag and a canister of pure nitrogen. The process was "not very dignified," Brian agreed, but all the equipment could be purchased legally and was said to be painless.

FEN's primary goal, Brian learned, was not to change the law, but to help people who suffered outside of it, because they lived in states where assisted dying was illegal or because their symptoms didn't match the law's eligibility criteria. According to **FEN** rules, clients didn't need to be terminally ill or even dying, in the immediate sense, as long as they were suffering "intolerably" and "unbearably." Within six months, Brian had attended his first suicide. The client was a man whose partner kissed and embraced him before leaving the room because he could not bear to watch.

"Without the heroism involved, we operate more along the nature of the Underground Railroad," Janis Landis, **FEN**'s president and a former IRS employee, told me. "Which is to say, that until the law is passed, we have to deal with the people who are suffering now. We have to show them a path that brings them out of harm's way."

Debra learned about **FEN** on the internet. One day, when she was researching ways to die, she found a site that listed all the normal methods of suicide and explained why each one was imperfect: the cramps, the mess, the awkwardness. Debra read that many people try to kill themselves and fail — because they lose their resolve, or because they choose the wrong poison, or artery, or open window. Others succeed but die slowly or painfully. Debra had thought about

using the handgun holstered to the side of her wheelchair, but the website said that suicide by bullet was risky. "You can miss shooting yourself," Debra said. "You can become a veg... you know what I mean." It was harder to kill yourself than she had imagined if you wanted a fool-proof method that was pain-free. One internet search led to the next until, eventually, she came across the Final Exit Network. *Son of a bitch*, she thought.

Even Brian would admit that **FEN** was a peculiar organization. The network has a Facebook page, a janky website, a formal hierarchy, and a claim to several thousand paying members. It is a 501(c)(3) registered nonprofit whose donations are tax-deductible. On the other hand, **FEN** guides work discreetly and without oversight. Barbara Coombs Lee, the president of Compassion & Choices, has referred to **FEN**'s plastic-bag suicide hoods as "sort of the end-of-life equivalent of the coat hanger."

The network has also been the subject of a multistate undercover sting operation, and its volunteers have been charged in three states with assisting suicides — once, after the death of a 58-year-old woman who, it turned out, was not physically sick at all but had fabricated pathologies in her **FEN** application because she was depressed and delusional. In 2015, the network received its first and only felony conviction, in Minnesota, for assisting in the suicide of a 57-year-old woman with chronic pain — after the Supreme Court of Minnesota defined the word "assistance" to include "speech" that "enables" a suicide. The network was fined \$33,000. It appealed the decision, pointing out that the information the group gave the woman "is readily available." Under this interpretation, it argued, a librarian could be convicted for handing a patron a book about suicide if that person later kills himself. The appeal was denied.

When Debra called **FEN** in fall 2017, she was put in touch with a woman named Janet Grossman, who told Debra that she would serve as the "coordinator" on her case. Debra learned that she would have to submit medical records showing proof of her diagnosis and a specific account of how her list of pathologies made her

suffer. From there, a panel of doctors would review the application and decide whether Debra could be helped: whether she was truly sick and whether her suffering met FEN's criteria for intolerable and unbearable. If she met the criteria, they could move forward with what Janet called, slipping into FEN vernacular, Debra's "exit."

On the phone, Debra told Janet about the forgetting and the losing herself. Janet was sympathetic. Her late father had suffered from congestive heart failure and her mother from dementia. In 2012, Janet's father had stepped outside the independent-living home that he shared with Janet's mother and placed a plastic sheet on the concrete surface of the parking lot and brought his wife to lie on it. He had called 911 and told the paramedics to expect gunshots and that he wanted his body donated to science. He then shot his wife of 64 years and shot himself. Shortly after, Janet discovered FEN and started volunteering. As it happens, these sorts of deaths are not uncommon: elderly couples dying in suicide pacts to escape Alzheimer's or men killing their demented wives of many years because the women are losing their memories and want to die, or because their husbands assume they would want to die, if only they could remember to want it. Sometimes, the men are prosecuted afterward and sometimes the judges forgive them — because, they say, the men acted out of mercy.

In late 2017, Janet called Debra to tell her that she had been approved, and Debra wept on the line. "It meant everything," she said. On the phone, Janet told her that she should be careful about whom she told. If the wrong person found out, Debra could end up under lockdown suicide watch. Janet also warned her that she had a "window of opportunity." Debra should live as long as she liked, but if she waited too long to act, she might lose the ability or the will to die, and then FEN would have to drop her case.

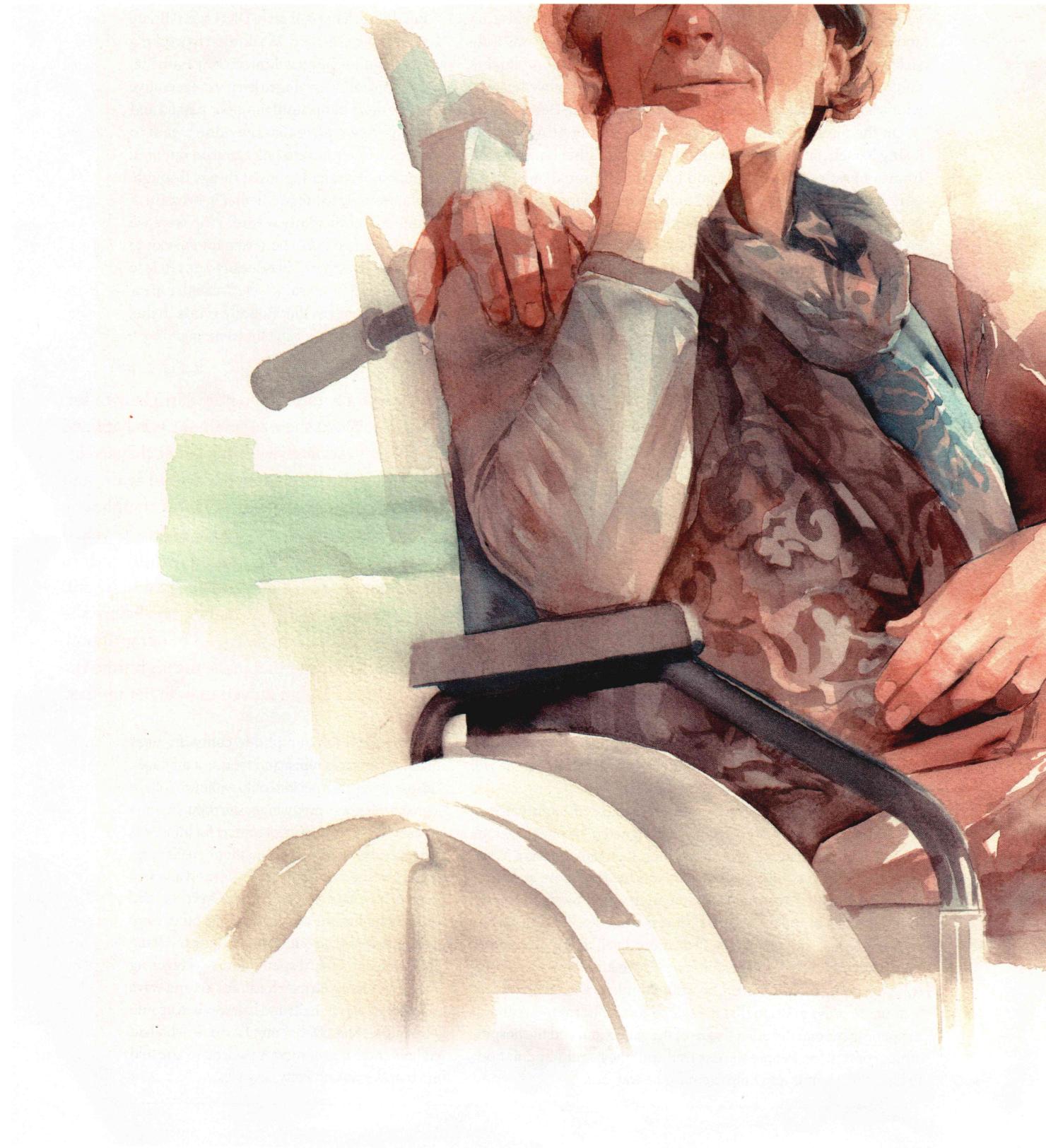
"It looks like she can enjoy many more months of a pretty decent life, and she may," said Brian, who was assigned to be one of Debra's two exit guides. Brian, who describes himself on LinkedIn as a "Chief Happiness Officer," told me that FEN was hearing more and more from people with dementia. The population was growing and aging, and the ranks of the dementia sufferers were swelling. In Brian's civilian life, he heard people say all the time that if they got dementia, they'd kill themselves or get someone else to kill them — that they were not going there. *OK then*, he would think, *so what is your plan?*

It made sense to Brian that the search for an alternative path was happening beyond the official gaze of the courtroom and the hospital ethics committee. People were scared, and they could find nobody to hold their hands and help them find a way out.

But didn't Debra still seem OK? I asked Brian. "It's her choice," he said. In addition to working as an exit guide, Brian volunteered at a suicide-prevention hotline: trying to keep strangers alive for a few more hours until the crisis passed and "usually, they realize that they don't want to die." Brian knew how to talk a person out of it. Debra, however, had thought things through. So who were we to judge whether her cognitive decline was sufficiently severe? Who were we to say that it needed to be severe for the exit to be — what, worth it? "She doesn't want to lose her selfhood," Brian said. "She sees it happening." Brian believes that nobody wants to die, only sometimes they can't live this way.

DEBRA GREW UP in a spiritually unmoored home, in a known-for-nothing town in California. When she was small, she was baptized as a Catholic and then, a few years later, when her father changed his mind, rebaptized as a Protestant. He changed his mind again, and the family stopped going to church altogether. It was an unhappy household. Debra's father drank himself stupid at night and yelled a lot. Sometimes, after he was done yelling, he would go into Debra's bedroom and sexually abuse her, and she would lie still and try her best not to breathe. It would be many years before she could admit to herself what he had done. For all of her girlhood, Debra imagined that it was a monster that made the nighttime visits. When her parents divorced, Debra moved in with her mother.

Debra got a job at a phone company near Anaheim, first as a typist and then as a manager. She rose as high as a person could without a college degree, which was pretty high, she thought, for a woman. She was the point of contact for hundreds of people. Debra did not consider herself to be clever, but she was good at her job and she was proud of how hard she could work. On Friday and Saturday nights, she and some of the other company girls would go out to TGI Fridays and hang out by the bar. They'd spend hours swaggering around the place with their fresh, '80s, second-wave boldness: all acrylic nails and hair combed up into Q-tip puffs. When Debra met David — who had red hair and a big, earnest mustache — she told him that she was no Betty Crocker. →



On the phone, Janet of the Final Exit Network told Debra that she should be careful about whom she told. If the wrong person found out, she could end up under lockdown suicide watch.



David was not like the creeps at work who sometimes grabbed at Debra or the old boyfriend who urged her to turn down a promotion because he thought the job of secretary suited her just fine. David supported her. He would ask to hear stories about the phone company, and he would repeat them at parties to Debra's astonishment. "My wife is the only person in the company who does this," he would boast. "She designed this!" David had been an antiques trader before going into construction, and his house was filled with old things. Sometimes, Debra and David imagined that they had known each other in the Victorian era but that their relationship had been cut short for reasons they didn't know and that God had sent them back to earth to meet again.

It was Debra who, in 2000, suggested that they move to Pacific City, on Oregon's central coast. Neither had close family. Neither thought they needed anyone but the other. In Oregon, they could start their lives anew and build a house by the water. When they did, they filled it with things they loved: crystal figurines, bouquets of plastic flowers from their wedding, old biscuit tins, imitation Tiffany lamps, and bookshelves lined with hardback thrillers, arranged alphabetically by author. They pasted vintage posters of Kellogg's cereal and Cadbury powdered chocolate in the kitchen and hung David's collection of old fedoras and pageboy caps on the living room wall. They made it perfect.

It was a few years later that, in Debra's telling, she died. "I was in a catastrophic, deadly accident in 2008," she said often. She wouldn't remember much, except that she had just steered the van over the crest of a mountain when things went dark. Debra's car hit a tree at 60 miles an hour, throwing her body into the dashboard, ripping out her knee implants, and, somehow, tangling the bones of her foot around the pedals.

Debra said that when she died, she crossed over into a place of brilliant light where she was free from pain and where her mother was waiting for her. The women stood together, but when Debra tried to walk farther into the light, her mother barred the way. She needed to go back, for David. "The next minute, I'm awake, and I'm in a helicopter.... Someone is pressing

Oregon's death-with-dignity law excludes people with dementia — since, by the time a dementia patient is within six months of death, she will likely be too far gone to consent to much of anything.

on me." Paramedics had performed CPR and resuscitated her. Most of the major bones in Debra's body were broken, and doctors told her that she would have to use a wheelchair. As her body repaired itself, Debra found that her godless idea of death had been remystified — made enchanted and otherworldly. Debra thought constantly about the bright, beautiful place in the sky and knew that she was not afraid to return.

After the crash, Debra and David spent most of their time taking care of each other. They went out less. They saw fewer people. David helped Debra with her pain pills and swore that the wheelchair didn't bother him one bit. He became Debra's arms and legs. Debra tended to David through the blood clots and the heart surgery and the cancer. Debra spent hours researching his various maladies. Each time she presented David's doctors with a suggestion for a new treatment, she felt certain that she had saved his life.

It was only after David died that Debra began to see herself as she was. The confusions and forgetting, which she had brushed aside, now lay in view. It was also after David died that Debra finally read the terms of the reverse mortgage that he had signed to cover their medical bills. Debra wondered if she would lose her home. She was stunned by how little money she had left.

It was hard to think about money, though, because it was getting harder to think in straight lines. Debra's thoughts felt like seeds that never germinated. Her attention was flighty; her stories lost their narrative thread. Sometimes, when she was at her computer, she'd come to suddenly and find that she had typed a page of gibberish. "I call them brain farts, for lack of a better description." She said her brain was "bleeding," that it was "oozing something every day." She took a memory test online and scored poorly. "Proof I'm worse than I thought," she said. Once, on the phone with me, Debra cried and said that she didn't recognize herself anymore. "I loved my brain."

When she finally saw the neuropsychologist, after putting the appointment off for years, she was almost relieved to hear him say dementia. At least the thing had a name. But Debra grew cold when she read the doctor's notes after their meeting. "It is strongly recommended," he wrote, "that Ms. Koosed explore possible alternative care environments such as an adult foster home. Until an appropriate care environment is located, Ms. Koosed will require in-home assistance on a regular basis."

Debra promised the doctor that she would start looking at nursing homes — because she worried that he might call some kind of housing authority and get her committed to an institution if she didn't — but she knew she wouldn't really. Instead, she started reading blogs about how awful and expensive most long-term-care homes were. She sent me links to articles. "Up to over \$97K/year! Ouch!" she wrote in one message. "Where will the \$\$ come from? I feel sorry for the thousands of Baby Boomers who didn't plan for this."

Once, I asked Debra what she thought it would be like to be demented — this thing she would rather die than experience. But Debra didn't seem to know. She wasn't sure if she would feel anxious and depressed, or if she would forget to feel either of those things. She didn't know if she would even feel. Debra did wonder if she would find the state of dementia to be undignified. She thought she probably wouldn't, that she would have no self-respect left, by then, to offend. But still, she believed that some part of her would continue to hurt from all the small indignities of life in an institution where nobody loved her.

Skeptics of medical aid in dying argue that our focus should be on facilitating good lives, not curating good deaths. This, they argue, is because there are no good deaths, or because the quality of our death is largely out of our hands, or because our quixotic preoccupation with engineering the perfect final hour is a disproportionate use of our efforts, which would be better spent improving life. But Debra believed that her ending mattered. She would have to live her ending, after all. Also, endings had a way of bending back on themselves and changing the way that a person's whole life was remembered. Debra did not want a bad ending. With FEN's help, she thought, she could script her life story all the way to her final breath.

In some ways, Debra fit the typical profile of the Oregon resident who receives physician-assisted death under the state's law: white, over 65, professional. The great myth of death-with-dignity legislation, researchers know, is that it exists to relieve people from excruciating pain. In fact, pain is not the number-one reason that people choose assisted death, nor even a top reason. According to the Oregon Health Authority, 90.9 percent of the 1,275 people who used the law between 1998 and 2017 cited "Losing autonomy" as their primary end-of-life concern. Just 25.8 percent identified "Inadequate pain control or concern about it." Patients in Oregon are more likely to request aid in dying for existential reasons than for physical ones.

In early February, Debra called Brian to say that she was ready for the next step. Brian and Lowrey Brown, the other exit guide assigned

Debra practiced pulling the bag over her head and, just for a second, releasing the gas valve. The exit guides wanted her to see that breathing inert gas didn't feel like suffocating or drowning.

to Debra's case, drove west from Portland to Pacific City. When Brian entered Debra's home, he saw bottles of pills and vitamins, which Debra had arranged on the kitchen countertop because she didn't want to forget to take them. The exit guides asked Debra to sign a piece of paper acknowledging that she had explored all of her medical options and that she still wanted to proceed. Then Lowrey went through the standard FEN demonstration, using her own equipment, which she had brought from Portland so that she wouldn't have to touch Debra's supplies. It didn't take long, 15 minutes maybe. It wasn't — as the guides told Debra, and Debra agreed — "rocket science." Lowrey showed Debra how to fashion a hood out of the plastic bag, how to attach the plastic tubing to the gas canister, how to snake the tubing up the bag. Debra practiced pulling the bag over her head and, just for a second, releasing the gas valve. The exit guides wanted her to see that breathing inert gas didn't feel like suffocating or drowning. It would just feel like normal breathing until, after a minute or so, she wouldn't feel anything at all.

When they were finished, the guides reminded Debra that she needed to come up with a plan for the discovery of her body. "That's part of what we do," Lowrey told me. "We don't want somebody accidentally stumbling across a death scene that they're not expecting." In many FEN deaths, a loved one was involved: a spouse or child who could call the police — sometimes, in feigned panic — to report the death. FEN volunteers usually insist on this as a way of protecting the network from charges of coercion and also, they say, because it's comforting for clients to have someone they love there. Debra, though, would be dying alone. The exit guides could close the curtains before they left the house, but they could not be the ones to call the police.

The most reassuring thing, Debra told me later, was that Brian and Lowrey had listened to everything she said and believed her. Debra's scattering of friends didn't always have the same reaction. On the phone, Debra's friend Robin sometimes told her that she sounded normal. They were all getting older, weren't they? They all forgot things. Robin thought that Debra's opioid painkillers, which she'd started taking after the car accident, were slowing her thoughts as much as the dementia was. She thought Debra had lost the will to live when David died.

Her friends' incredulity enraged Debra and tended to provoke frenzied diatribes about the many cognitive screw-ups that she experienced in the course of a day. There were the lost hours. The lost words. The time she forgot how to put on eyeshadow and needed to watch a YouTube makeup tutorial to learn again. Debra didn't tell Robin what she was planning, though she started leaving hints. She told Robin how she had put down her dog in February because the dog was suffering, and didn't Robin agree that when you love somebody, you can't just watch her suffer?

One morning in mid-March, Debra and I sat at her kitchen table eating breakfast burritos. Even though she had moved the tax forms out of the way, the surface was still cluttered with tablecloths and decorative crocheted coverings and patterned napkins. Debra faced the window, looking out at the water, in a gray tracksuit and dangly silver earrings, her swollen legs propped up on a footstool next to my chair. When her phone beeped, Debra glanced at it briefly and then took two pills from a plastic pillbox in her handbag.

How did she think her friends or far-away cousins would feel when she killed herself? Some would be disappointed, Debra granted. But they'd understand or they wouldn't, and she wasn't close to them anyway.

After breakfast, Debra said there was something she wanted to show me, and she slipped an old tape into her VCR and turned on the kitchen television. On the screen, an image of a younger, more made-up Debra appeared. She was in her early 30s and had just been promoted at the phone company and had enrolled in a public-speaking course, which was taped for instructional purposes. In the video, off-screen teachers called out instructions to "Debbie." Smile more, they said. As the video-screen Debbie began her mock sales pitch, real-life Debra shook her head at the kitchen table beside me. "The first thing I'm doing wrong is I have my hands in my pockets," she scoffed.

Debra watched the video all the way through, her face turned up toward the screen. "Cheesy," she whispered, when 30-something Debbie said something hackneyed or cute. I watched Debra, watching Debbie, and said nothing.

Before I left, Debra showed me the spot by the living room window where she planned to kill herself: overlooking the beach and the tide. On the phone, Brian had told her that she should start thinking about her final hours in more detail. What kind of music did she want playing? What about a last meal? But all Debra wanted was to have a photo of David beside her and for her last sight to be of the water. Already, Debra was checking the weather forecasts every day and praying for clear skies. But the weeks ahead were filled with rain.

→

No American

state has seriously considered the idea of extending aid in dying to dementia patients, and no major American lobby group is advocating for it. Compassion & Choices CEO Kim Callinan told me that her organization has no interest in expanding the Death With Dignity Act's eligibility criteria. This is largely a matter of philosophy; Callinan does not think that a person with compromised mental capacity should be helped to die, though she does think that people with dementia should be empowered to refuse, in advance, aggressive medical treatment and even food and water. But it's also a matter of tactics. "Politically, it's hard enough to get laws passed that have these requirements," she said. Compassion & Choices is committed to the enormous task of passing death-with-dignity laws in the states where they do not exist, and in Callinan's view, this means replicating the tried-and-tested Oregon model. Here, the Final Exit Network is not always helpful. "Talking about death is already hard, so when you start talking about death with gas tanks and plastic bags...."

Advocates also know that any expansion of Oregon's eligibility criteria will fulfill the darkest prophesies of right-to-die opponents, who warn that after death-with-dignity laws are passed, they will inexorably be expanded to include more categories of patients. It will then be a slippery slope to cheap death or forced killing. Opponents have also hypothesized that a right to die for dementia patients could eventually evolve into a duty to die. Would greedy or distressed family members encourage it? Even if they didn't, would the selfless patient feel obligated to choose death before she drained the people she loved of money and patience?

When, in 2015, an Oregon legislator named Mitch Greenlick introduced a bill to amend the Death With Dignity Act, extending the terminal prognosis requirement from six months to 12 months, Compassion & Choices lobbied against it. The bill went nowhere. In January 2019, Greenlick introduced another bill that would expand the Death With Dignity Act's definition of "terminal illness" in a way that, he hopes, could include dementia. Compassion & Choices opposes this proposal, too.

In Belgium and the Netherlands, a patient can qualify under the country's assisted-dying law on the basis of an early-stage dementia diagnosis — provided that her request is "voluntary" and "well-considered," and that she is mentally competent at the time of her death. Dr. Peter de Deyn, a Belgian neurologist at the University of Antwerp, told me that when one of his patients is interested in assisted dying, he will meet with her at regular intervals to make sure that she is "still capable of making decisions." Dr. de Deyn promises to say "when the moment is getting doubtful.... But, of course, it's not an on-off switch. Demented or not demented. It's a process." A patient can miss her chance if she waits too long, but

once she is approved, there is no such thing, legally, as too soon — and it is not the job of any doctor or bureaucrat to insist that there is still plenty of good time left.

Between 2002 and 2013, 62 Belgians with dementia died this way: "preventatively," to quote medical reports. But these patients ask something difficult of their doctors. Physicians are, after all, taught to treat symptoms. When the dementia patients ask to die, however, they are often not suffering physically at all — or, not much. If they can be said to suffer, it is from fear of future suffering. The patients are hedging their bets: making guesses about how and when their future selves will hurt. Some Belgian doctors, even ones who approve of physician-assisted death, have said that they want nothing to do with this sort of prophylactic medicine.

In the Netherlands, where euthanasia now accounts for more than 4 percent of total deaths in the country, the law goes further. There, a patient with advanced dementia can be euthanized at an agreed-upon moment if she has left written instructions in an advance health care directive. The moment might vary from patient to patient: when she has lost the ability to speak, say, or when she does not recognize her husband. Dutch doctors are allowed to euthanize their patients, by injection, even when they are "no longer able to communicate."

Many physicians, though, have refused to carry out these pre-authorized euthanasias. In 2017, more than 200 doctors took out an advertisement in a national newspaper to declare themselves opposed to the practice. Some have questioned what constitutes "suffering" in a state of profound cognitive loss. Do deeply demented patients really suffer? Others are distressed by the idea that a competent patient can assume decision-making powers over a future, incompetent version of herself — even as she fades away and the new self comes into being. Dutch doctors debate whether these two versions of the patient — the "then-self" before dementia and the "now-self" with dementia — are even the same person. If they are not, then why does the one get to dictate choices for the other?

In Belgium and the Netherlands, a patient can qualify under the country's assisted-dying law on the basis of an early-stage dementia diagnosis — provided that her request is "voluntary."

In Canada, lawmakers are considering whether to expand the country's 2016 assisted-dying law to patients with advanced dementia and are currently reviewing a 244-page report, written by an independent council of academics, that explores the possibility of "advanced requests for medical assistance in dying." When I asked Shanaaz Gokool, the director of Dying With Dignity Canada, whether the tension playing out in Belgium and the Netherlands worried her, she was unequivocal. "You do as much as you can with the information you have to mitigate against harm," she said, "but you don't exclude a whole category of patients because there have been some problems in Belgium."

right now at this moment, is the fact that I am the type of person that will not leave my estate a frigging mess," she said.

Debra was dismissive of the hypotheticals I often lobbed her way — questions about whether she would stay if David were alive or if she had enough money to keep the home. "If I had money and people who cared about and cared for me, then I would," she said. "But I don't." Another time, she demanded, "How would you feel if you knew that you were no longer going to be you?"

In a safe near the front of her house, Debra had stashed several months' worth of medication: pain pills that she and David had hoarded over many years by skipping a pill here

and there or by refilling a prescription a few days early, when the pharmacist wasn't keeping track. It had been David's idea. If there was some kind of national emergency, he said, they could live off their stockpile. Now, Debra had enough medication to keep her going, which meant that she could stop seeing her doctor. When the secretary at the doctor's office called to remind Debra that she was due for an appointment, she did not return the call.

She started shredding documents and old photographs, deleting emails and text messages from her friends, from FEN. She didn't want strangers rifling through her business when she was gone. She didn't want anyone to get in trouble. Debra stopped watching the news in the evenings. Once, she and David had watched television side by side: she, always irritating him by talking over the broadcasts. But now, she didn't care. Anyway, Debra thought the world was hurtling toward Armageddon. Global destruction. China, Iran, polluted oceans, kids killing kids.

"It's very difficult for people to understand what I'm going through because what you see and what you hear is not the real me. You see a fake. I put on a face for you," Debra told me at the end of March. "David was the only one that saw the real me. It's unfortunate." →

ONE COOL MORNING in mid-March, Debra woke up and did not know where she was. "Seconds. The longest seconds that I can imagine." Then, she remembered. "And then I went, 'Oh.' Then I went, 'F---.' Because you realize what you're forgetting." A friend told Debra that she should write a note and tape it to her bathroom mirror: DEBRA, YOU ARE DEBRA. THIS IS YOUR HOME. YOU ARE SAFE.

She said she wasn't wavering. She said she had taken stock of her life, as it was, and could see only bad omens ahead. Debra started talking to God for the first time in years. "I said, I really need a strong message. You know, one way or the other, I need to know. Either you put a light at the end of the tunnel that says it's not time for me to go or you point it in the direction that makes me understand that it is time."

One Saturday, Debra woke up and felt like she was a decade younger. "I was firing on all cylinders." She could multitask. She did laundry while she watched television. She started writing goodbye letters to the people she knew. Everything was vivid. But then, the next day, she felt like crap again. "I just went from smart to dumb." Debra thought that God had given her one last good day so that she could see how far she had fallen. She thought the stars were aligning around her choice. "Aligning. Is that how they word it?" It seemed that Debra's faith had become liquid — able to fill whatever hollows of doubt that opened up as the weeks moved forward. God was finding new ways to deliver messages to her. The broken boiler was a sign. The bottle of balsamic vinegar that she dropped on the kitchen floor was a sign. The letters from the mortgage company, addressed to David, which Debra nervously sent on to her lawyer, were also signs.

By then, Debra was spending up to six hours a day on her taxes. "I've lost my way," she said on March 20. Most days found her on the phone with TurboTax, waiting on hold and then, when it was her turn, pleading for customer service help. Debra had decided to donate everything she had to the Oregon Humane Society. She wanted her money to help dogs, like all the ones she had loved over the years. "The thing that is keeping me alive, choosing not to exit

On April — 17,

Debra woke early and ate a carton of coconut-flavored Greek yogurt in the kitchen and then spent some time wheeling around the house, looking at all of her belongings. She looked out the window. For weeks, it had been raining, but now the weather was fine. Debra had taken a Xanax to calm her nerves. She had finished her taxes.

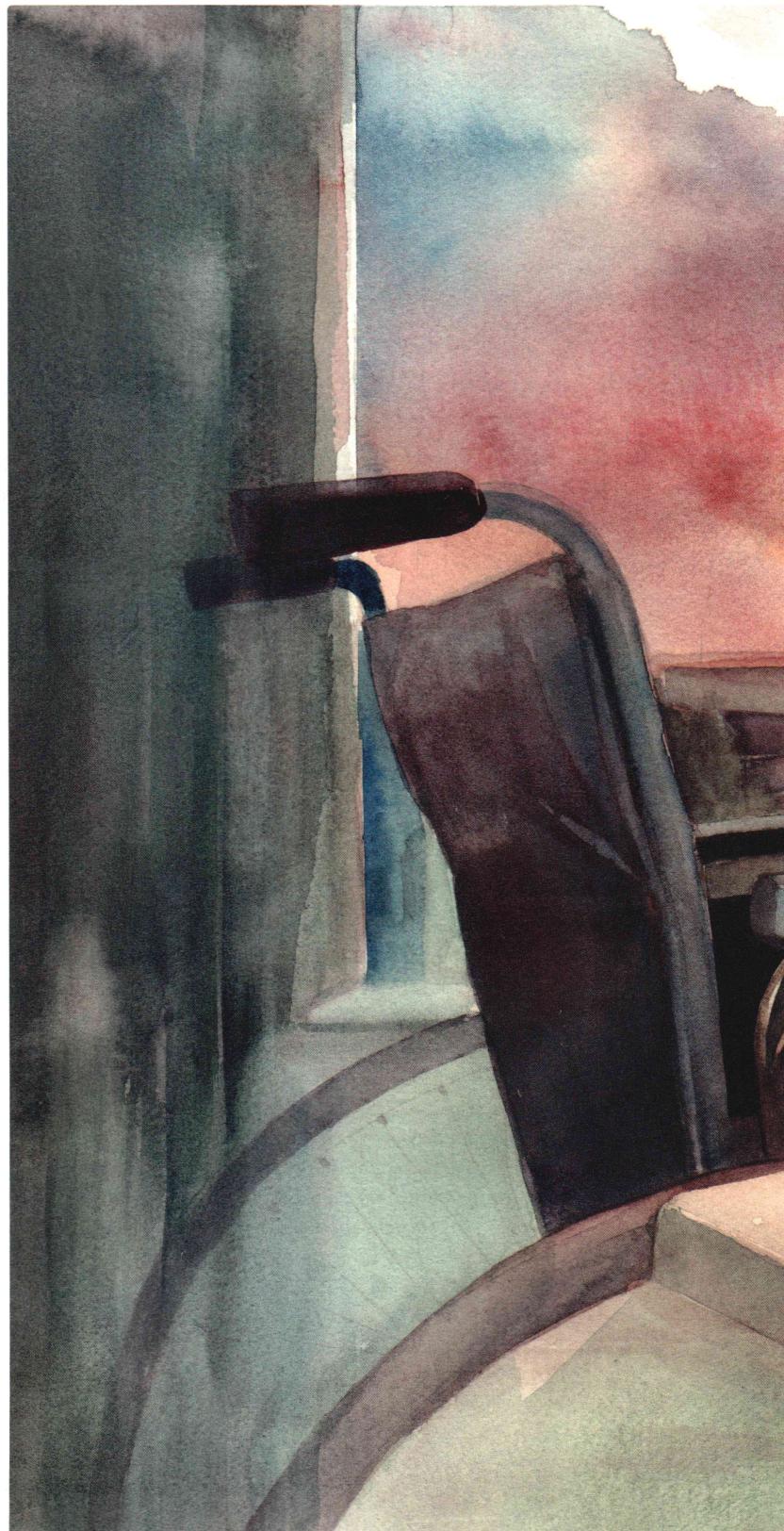
When Brian and Lowrey arrived from Portland around 8 a.m., Debra had already taped the letters to the front door. One was addressed to Robin, telling her not to come inside and to call the police, and thanking her for her friendship. Robin would find it when she came that day to drop off Debra's mail. Another letter was addressed to the authorities. Inside, the exit guides saw the bag and the gas canister waiting by the living room window beside a small table that Debra had covered with pictures of David and their dogs. Brian told Debra that she didn't have to go through with it. She could change her mind. They could leave. No big deal. But Debra said, "Let's do this." So Brian and Lowrey both hugged her. They then knelt down on each side of the wheelchair.

That afternoon, the Tillamook County Sheriff's Office received a call about a possible suicide in Pacific City. It took the sergeants and one sheriff a half-hour to drive to the house. It was 2:01 p.m. when they opened the note from Debra, telling them where to find a key to the front door.

When the officers stepped inside, they found yellow Post-it notes on everything. There was a note on the bed frame, explaining that Debra had bought it at an estate sale in California. There was a note on the dryer, indicating its temperature range. There were notes on some of David's antiques, advising that they were valuable. "Don't sell it for nothing."

Lieutenant Jim Horton observed that this wasn't the kind of thing you run into every day — but then again, he had run into things like this before. After looking through the house for several hours, Horton and his colleagues agreed that nothing looked amiss. It seemed obvious that Debra had known what she was doing and that "she had done it completely independently."

Later, there was just one strange thing that Lieutenant Horton found hard to shake. It was nice out, but all the curtains were drawn. ¶



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After a mysterious freestyle ski run in last year's Winter Olympics, people called Elizabeth Swaney a scam artist and the worst athlete in the history of the games.



They're wrong.



IF YOU HAPPENED to tune in to the Winter Games last year during the women's halfpipe skiing competition, you might have caught one of the Olympics' most perplexing moments. Halfpipe, which was introduced to the games in 2014, features an adrenaline-soaked spectacle: Skiers plummet down a steep track into a frozen ramp the shape of an empty motel swimming pool, before flying up the ramp's 22-foot walls and launching high into the air for a series of bold tricks.

For years, the Olympics had been hemorrhaging viewers to the younger-skewing X Games. Adding halfpipe, among a slew of other freestyle skiing and snowboarding competitions, seemed like a clear bid to siphon back fans who craved big air. Last February, in the qualifying round in Pyeongchang, skier after skier hit the pipe ramp and soared into the sky, their bodies flipping and spinning. Then, Elizabeth Swaney — an Oakland native who'd been a last-minute add to the Hungarian team — started her run, and something really weird happened: She didn't do any tricks. →

The Believer

By Davy Rothbart
Photographs
by Erin Brethauer

Instead, she rose neatly up and down the sides of the ramp in bizarrely underwhelming fashion, as the TV announcers, thoroughly confused, narrated the action: "Liz dropping in... just getting up to the top of the wall.... Easing up to the top of the wall, showing the judges she can make it down this halfpipe clean." The overall effect was of a basketball player dribbling up and down the court while never shooting the ball, or a figure skater cruising in circles on the ice without a single jump.

When Swaney finished her run, she carved her way to a stop at the bottom of the course beside a throng of spectators in parkas, pumped her fist three times, and looked up at the scoreboard, waiting for the judges' tally, as though hoping she might have done well enough to advance to the medal round. After a minute, the numbers popped up: She'd totaled 31.4, one of the lowest scores ever recorded in the sport's Olympic history. She finished in last place.

A video of her performance quickly went viral and sparked polarized reactions. Many were furious, labeling her a fraud who had cheated her way into the games. "It's not some adult Disney World where you go to take selfies," someone posted on Swaney's Instagram account. "The Olympics are a showcase of the **BEST** athletes in the world and Swaney made a mockery of that. She made a mockery of people's life work." On Twitter, she was called the "worst Olympian ever," and a CBS Sports columnist said she'd accomplished "the real American dream: Scamming the system to achieve your life goals while doing the absolute bare minimum to get there." More than one commentator pointed out that by seizing her spot at the Olympics, she'd surely squeezed out people who were more deserving. Others had a more generous read, clumping her with past Olympians who lacked talent but had shown grit by competing in sports in which they were completely outmatched.

In an interview on the *Today* show, when the hosts pressed Swaney about the backlash, she danced around their questions, further mystifying audiences by acting as though there was nothing unusual about her runs. "I just fell in love with freestyle skiing and the opportunities for expression that it gives people," she told the hosts vaguely. Asked about those who would say she didn't belong in the Olympics, Swaney replied, "I thank them for their time... and I would just encourage positive vibes for everyone." Left with no satisfying answers, people continued to puzzle over who Elizabeth Swaney

She rose neatly up and down the sides of the ramp in bizarrely underwhelming fashion. The overall effect was of a basketball player dribbling up and down the court

while never shooting the ball.

was and how this seemingly average athlete had managed to compete on the biggest stage in sports.

I FOUND SWANEY earlier this year at a gym in San Francisco called Flagship Athletic Performance, where she likes to train after work. (When she's not working out, she's a recruiter for the tech company Thumbtack.) The song "Happy," by Pharrell Williams, jangled from wall-mounted speakers, while a tattooed young woman led two dozen charges through a series of jumps, skips, and hops. Between sets, people chattered about their work at Facebook and Apple.

In a quiet corner, Swaney, who is 34, stretched, anonymous and unnoticed in her gray T-shirt, shiny silver leggings, and a pair of weightlifting Nikes that glowed hot pink. Nothing about her presence announced that she was an Olympic athlete; if you'd asked someone to guess who in the room had competed in the 2018 Winter Games, he might have pointed to ten other people first.

Done with her stretches, Swaney loaded weights on a barbell and began what struck me as a peculiar routine: For 15 minutes, she lifted the barbell from her thighs up to her waist, then lowered it back to her thighs, a span of about 3 inches. Next, she held the barbell at her waist and spent ten minutes simply clenching her shoulders up toward her ears, again and again. Finally, she added more weight and all at once snatched a 90-pound load from the ground and smoothly flipped it above her head. The bits she'd been practicing and perfecting, I realized, were micro-steps within a much larger (and more impressive) coordinated movement.



I asked her to explain her technique, since I knew nothing about weightlifting, and she broke things down for me in friendly, technical detail, invoking axioms of physics and the names of interwoven muscle groups.

"So it's all about gravity?" I asked, jokingly obtuse.

She flashed a smile, then zapped it. "I would say it's more about belief."

Swaney has a scientist's precise manner and a rock climber's focus. She's the type of person who listens to audiobooks at double speed (and is working her way up to 2.5 speed), attends Sundance screenings for documentaries

like *Senna* and *Bhutto* and thrusts her hand in the air to ask questions at post-show Q&A's, and considers emailing the authors of a self-improvement book called *Designing Your Life* with suggestions on how they might improve their advice — the authors encourage people to focus on one thing; Swaney believes in attacking a variety of goals at once.

At 19, she mounted a campaign for governor of California in a race ultimately won by Arnold Schwarzenegger. In her effort to gather the signatures needed to get her name on the ballot, she stationed herself in front of a gym, sensing that people would be in a better mood — and more likely to engage — after

1. Elizabeth Swaney in her room in her parents' basement **2.** She plays the flute and piano. **3.** Swaney, the only girl on a 1996 North Oakland Little League team **4.** At Heavenly Mountain Resort in Tahoe **5.** Medals for everything from skiing to rowing to mathematics **6.** Swaney in 1996 **7.** Holding a pullup at home **8.** Cycling at Flywheel Sports **9.** U.C. Berkeley's student newspaper announced her gubernatorial run in its August 12, 2003, issue. **10.** A skeleton demonstration **11.** The only girl on a 1996 Rockridge Soccer Club team



19-Year-Old Berkeley Student Joins Race for Governor

by REGINA CHEN
CONTRIBUTING WRITER

Most college sophomores spend their Saturdays relaxing. But UC Berkeley sophomore Elizabeth Swaney spent her weekend collecting last-minute signatures to submit to the state registrar before Saturday's 5 p.m. deadline to run for California governor.

At 19, Swaney just barely makes the state's lone requirement to run for governor — being a registered voter.

Swaney joins such names as Arnold Schwarzenegger, Gary Coleman and Larry Flynt on California's Oct. 7 recall ballot.

About half of the 185 gubernatorial candidates, including Swaney, are wait-

a workout. Over the years, she's auditioned, unsuccessfully, to be a cheerleader for the Utah Jazz, Oakland Raiders, and L.A. Clippers, and trained in archery, gymnastics, piano, and flute. "If I'm going to do something," she told me, "I want to learn how to do it well. I might not become the best in the world at it, but I'll learn how the people who are the best in the world are doing it." Her diversified goals seem to function as some combo of self-challenge and intellectual curiosity.

During breaks from her workout, she slowly unspooled details of her unusual résumé. Swaney was born during the 1984 Olympics, she told me, and at age 7, after watching figure skater Kristi Yamaguchi — another Bay Area native — win the gold, she felt moved to pursue her own Olympic dream and began taking skating lessons. A few years later, Swaney's mom brought her to a luncheon hosted by Yamaguchi, and Swaney had a chance to meet her hero; she says Yamaguchi took the opportunity to hammer home the staggering hours of practice Swaney would

need to devote to skating if she hoped to become an Olympian.

Swaney continued to train on the ice, but when her middle school teacher suggested that she try rowing, she fell in love with the sport and in college became the coxswain for the highly ranked University of California men's crew team. She had a talent for building friendships with her rowers and mined their personal stories for details she could use to help push them beyond their limits on race days. "She was the quiet assassin," Ivan Smiljanic, a team captain, told me. "Outside the boat, she wasn't loud. She wasn't rambunctious. But as soon as she stepped in the boat, she held the reins." After grad school at Harvard (she studied real estate), Swaney, like a space probe aimed toward faraway planets, relentlessly

trained in various sports, including rowing, ice hockey, and skeleton (a luge variant where competitors hurtle headfirst at 80 miles per hour down an icy track). She was fixed on the idea of one day competing in the Olympics, in whatever capacity, making whatever sacrifices were necessary.

For many Olympic sports, the nation's elite athletes are nestled inside Team USA training programs, where the costs of their room, board, and coaching staff are largely covered. This allows them to devote themselves entirely to their craft. But a notch below these elite athletes subsists a layer of good but not great ones, who may not qualify for Team USA sponsorship but for whom the Olympics still feel tantalizingly within reach. Swaney was in this second tier. For these athletes, the challenge is multiplied — they need to prove themselves in their sport while finding a way to manage the entire financial burden of pressing toward their Olympic dream.

Swaney moved to Park City, Utah, a hub for Olympic hopefuls. To pay rent and cover the costs of coaches, gear,

Returning from a day of
skiing at Heavenly



and lift passes, she worked a string of thankless jobs — collecting carts in the Whole Foods parking lot, selling cellphones for Sprint, and serving banquets at a five-star resort. “I greeted thousands of guests. ‘Good morning, sir,’ and ‘Good afternoon, ma’am,’” she told me. “It was all in service of a larger goal.” Her finances were stretched so thin that she sometimes got by on peanut butter and bananas.

Some athletes who can’t make the cut for their home country’s Olympic team are allowed to compete for other countries if they have legitimate ties elsewhere. In qualifying events for the skeleton — a sport in which Swaney believed she could land an Olympic spot — she represented Venezuela, where her mother grew up; it didn’t hurt that fewer women competed, improving her odds. But after several years of intensive training and competition, she failed to make the 2014 Winter Games in Sochi, Russia. She shifted her focus to halfpipe, vying to become the first-ever freestyle skier in the Olympics to represent Hungary, the home of her grandparents. Halfpipe was known for its danger — four-time Winter X Games gold medalist Sarah Burke had died after a crash in Park City on the same course where Swaney began

to train. Only the top 24 female halfpipers would be eligible for the 2018 Games in Pyeongchang. But with the dearth of halfpipe courses, and the relatively low supply of world-class competitors, the sport also presented Swaney with what could be her best chance to make the Olympics.

Here’s the truth of it: Swaney hadn’t trained relentlessly for years at a single sport in the way that her fellow Olympian hopefuls had. Although she could pull off impressive (if still lower-range) aerial stunts in practice on a water ramp, she couldn’t complete the same tricks on the halfpipe, where a bad landing could lead to catastrophic injury. So she took another approach. The world rankings were based on points that skiers accumulated at a series of qualifying events in the years leading up to the Olympics in far-flung locales, ranging from California and Colorado to New Zealand and China. If she attended every single qualifying event and skied a flawless, if simplistic, routine, she’d harvest a few points each time, outscoring those who tried for more-ambitious runs but couldn’t land their stunts — a tortoise to their hare.

Swaney has a scientist’s precise manner and a rock climber’s focus. She’s the type of person who listens to audiobooks at double speed and attends Sundance screenings for documentaries and

thrusts her hand in the air at post-show Q&A’s.

It was a clever, bluntly effective strategy, and by the time the 2018 Olympics drew near, she was on the cusp of qualification. When a few athletes pulled out due to injury just weeks before the games, Swaney got the call from the Hungarian Olympic Committee that she’d always dreamed of. She was in.

“SHE WAS JUST born that way.”

This was Swaney’s dad, Tom, who owns an insurance agency, talking to me over tea, as we sat with her mom, Ines, in Swaney’s childhood bedroom. They lived in the same home in Oakland’s

Rockridge neighborhood where they’d raised Swaney and her brother. Swaney moved back in with them two years ago; she sleeps in the basement, workout clothes spread across the floor. Between her day job at Thumbtack, her multiple daily workouts, and traveling for competitions, they see her only fleetingly, although sometimes she rides the morning train into San Francisco with her dad.

In the year since Swaney competed in the Winter Games, Tom’s colleagues had often asked him for parenting advice; they wanted to raise an Olympian as he had. But Tom told them he was surprised by his daughter’s endless motor and that he had no advice to give. “She has an idea,” he marveled, “and she just goes and does it. It’s been that way since she was a kid. If only it was so easy for me and for everyone.”

But the longer I talked to Tom and Ines, the more I had the sense that Swaney had absorbed some crucial, formative lessons from them. Ines is a Spanish interpreter who sometimes works for the courts. For decades, as a hobby of sorts, Ines and her friends have met monthly to enter a wide range of sweepstakes, which meant mailing in entry forms or postcards. And while she’s never cashed in on a million-dollar payday, she’s won countless smaller prizes — restaurant gift certificates; tickets to concerts, movies, and sporting events; and even two seats to the luncheon with Kristi Yamaguchi where she’d introduced her daughter to the Olympic star.

Tom was ritualistic in supporting whatever challenges Swaney dreamed up. Watching Yamaguchi at the Olympics ignited in Swaney an interest in figure skating, so Tom arranged lessons. When she asked to play Little League baseball, he signed her up for a co-ed team, where she was often the only girl. Her teammates were reluctant to practice with her, but Tom took her to the backstop at a nearby grade school and taught her to throw, catch, and hit. In high school, when Swaney said she wanted to join a crew team called Oakland Strokes, Tom drove her to the estuary to train at 4:30 in the morning a few times a week.

When Swaney had qualified for the Olympics, her parents were thrilled that her persistence had paid off. They stayed up late, watching from their living room as their daughter appeared on their TV from Pyeongchang. “There she is!” Ines cried. But after Swaney performed the same kind of run that she’d been skiing at all of her qualifying events, and the video clip spread, they were

heartbroken by the response. "It was shocking how unprofessional these news outlets could be," Tom told me. After an article in The Associated Press appeared, saying that his daughter "had no business competing in the Olympics," he felt that every other outlet had followed suit without digging deeper into her story. He mentioned English ski jumper Eddie the Eagle, the Jamaican bobsled team, and Tongan skier Pita Taufatofua, who had all become Olympic darlings as lovable underdogs and whose ineptness was at the core of their charm.

Ines and Tom's emotional reaction to the backlash was drastically different from Swaney's own response, which was, in essence, not to have a response at all. Whenever I asked her about the criticisms, she gave the same detached, deflective explanation she'd given countless times before: That she'd tried her best, that she had done some tricks, and that, ultimately, she doesn't listen to voices that aren't positive; there's no point.

The contrast reminded me of a story Ines had told me about a sweepstakes she'd won, which awarded her seats to a Golden State Warriors game and three chances to shoot a free throw during a timeout to win a \$300 gift card. Before she took the shot, a courtside staffer told her, "Hey, if you make this, go absolutely nuts. Let the whole arena feel your excitement." Ines shot the free throw "granny-style," swished it, and jumped around in glee, like a World Cup player after a game-winning goal. Her reaction was partly genuine, but largely a put-on; she was merely doing as she'd been instructed. After all, it was just a free throw, and she'd only won a few hundred bucks. But the arena shook with applause, and over the course of the night, as she roamed the stands, Ines found herself trading high-fives with her newfound fans. It was a testament to the power of stagecraft: The facts of an event mattered less than their presentation.

But for Swaney, the very qualities that got her into the Olympics in the first place — the unadulterated belief that her hard work would somehow pay off, her refusal to succumb to, or even acknowledge, self-doubt — were the very things that prevented her from being an athlete the public could connect with. When the online trolling began, Swaney responded not as someone who understood what spectators needed — an acknowledgment of her underachievement — but as someone who felt pride in what she had managed to accomplish against long odds. "I just love challenges," she cheerfully told the hosts of the *Today* show, a couple of

"If I'm going to do something, I want to learn how to do it well. I might not become the best in the world at it,

but I'll learn how the people who are the best in the world are doing it."

days after her last-place finish. "I'm always trying to do my best."

In Pyeongchang, Swaney's fellow Olympic halfpipers rose up to defend her; they'd witnessed firsthand her effort on the training slopes of Park City. "If you are going to put in the time and effort

to be here, then you deserve to be here as much as I do," said Cassie Sharpe, who'd won the gold. Swaney told me that Maddie Bowman, a 2014 gold medalist, gave her a hug when they crossed paths right after the competition and told her, "We love you." And men's halfpiper David Wise, who'd struck gold in two consecutive Olympics, told a reporter he was "inspired by her."

After the run, she started reading through some of the hateful comments on YouTube and Instagram. Tom said he thought of his daughter as a fortress, eerily imperturbable. But one night when he asked if she'd read some new articles analyzing her story, she told him, "Dad, I don't think I can read any more of those," before disappearing into her room in the basement.

Within a few weeks, Swaney did what she always does — she focused on another goal: competing on the TV show *American Ninja Warrior*.

WHEN SHE DECIDED she wanted to train for *American Ninja Warrior*, energized by its range of physical challenges, Swaney sought out a man named Brian Kretsch, who operates a *Ninja Warrior* training gym called Apex, in Concord, California, a half-hour east of her parents' house.



On my last night in town, I drove with Swaney to Apex. We crossed over the Oakland Hills, winding past fast-food restaurants and chain stores into a misty industrial park, where Kretsch's gym was located inside a nondescript warehouse. *American Ninja Warrior*, the reality show where competitors try to complete an imaginative, death-defying obstacle course, spawned dozens of ANW-style gyms around the country, doubling as adult playgrounds and training centers for those who hope to become contestants on the show.

Kretsch, lean and tall, is one of the longtime stars of ANW, having appeared on all ten seasons. He stood with his arms crossed atop a high pedestal in the middle of the gym, beside a giant pit filled with foam fragments, calling out advice here and there to people

fighting to get through the obstacle course and chastising a band of young teenagers for playing tag. "People see this on TV, and they think it's gonna be easy," he told me. "Then they come in here, and we never see them again. We call them 'one and dones.'"

Swaney was the opposite, Kretsch said. Supreme challenge was her prime motivation. "When something is hard, she shows up every day until she conquers it. She's a gym rat. And this sport is the ultimate test of patience and persistence." Swaney, he went on,

was also highly coachable and extremely focused. "She wants to improve her technique because she understands that's where she'll make the biggest gains."

I watched Swaney try an obstacle called Rumbling Dice, four interconnected pullup bars attached to a rolling cube. A few months before, she'd fractured her heel at Apex, and her strength had slipped a little. "See," Kretsch said, "most people try to muscle their way through that one. But it's all about technique." He said that Swaney had a stunning mind-body connection — she could receive advice and instantly translate it.

She moved to a "balance log" and crossed it a few times. She lost her footing once and crashed to the mat below. Instantly, she dusted herself off for another attempt, making it with ease. "Your turn," Swaney called to me. "Come try some of this stuff!"

She suggested I limber up with some pullups and lingered close by as I struggled to lift myself up to the bar. It was shameful to broadcast my weakness to a room full of

athletes. "OK," she offered generously, "if you can't do a pullup, see how long you can hang there. That can awaken your muscles." I dangled there, arms burning, for as long as I could.

"Great!" Swaney said. She brought me to an area called the Floating Steps and demonstrated a path through the first few obstacles, hopping across the tops of four wooden posts of increasing height, before leaping to a thick rope, swinging to another platform, and crossing hand over hand along a steel horizontal ladder, until dropping to a stuntman's thickly cushioned mat below.

"I'm sorry," I said. "But there's no way I can do that." Then Swaney proceeded to show me the technique needed to conquer the first chunk, giving me tips on footwork and encouraging me not to allow my fear of failure and fear of looking foolish to mount. She patiently instructed me, looking for ways to make the impossible feel achievable, just as she'd done as a coxswain, just as she'd done her whole life for herself. Seeing her as this unflappable coach brought to mind something that a trainer, Zach Lemis at the Flagship gym, had told me about Swaney: He'd been in a weightlifting teacher-training course with her and was surprised to discover that she was learning to teach lifting while new to lifting herself. Swaney had also told me that when she'd learned to ski in Park City, within months she began training as a ski instructor. "Learning how to teach things," she told me, "helps me process how to do it myself."

Finally, after six failed attempts, I made it to the swinging rope and, adrenalized, managed to swing my way to the ladder, where I powered all the way across to the finish, letting out a cry of victory that echoed throughout the gym.

"Nice job!" Swaney cheered. All week, I'd never seen her smile so broadly. I lay on the mat, heaving for breath. Minutes earlier, the idea of completing even that minor section of the course had seemed ludicrous. But somehow, Swaney had chipped away at my skepticism. It's as if she knew something I was only beginning to understand: We're all amateurs at just about everything, and most of us will stay amateurs. But that only matters if you let it. Swaney extended a hand to pull me up. She wanted me to take a shot at the balance log next. Apex didn't close for another half-hour. ¶



1. Training for *American Ninja Warrior* at the Apex gym 2. At the Blue Granite Climbing Gym in South Lake Tahoe 3. Swaney is also a member of the Cal Berkeley Gymnastics Club.

DAVY ROTHBART is the author of *My Heart Is an Idiot*, a collection of essays, and directed the films *Medora* and *17 Blocks*.

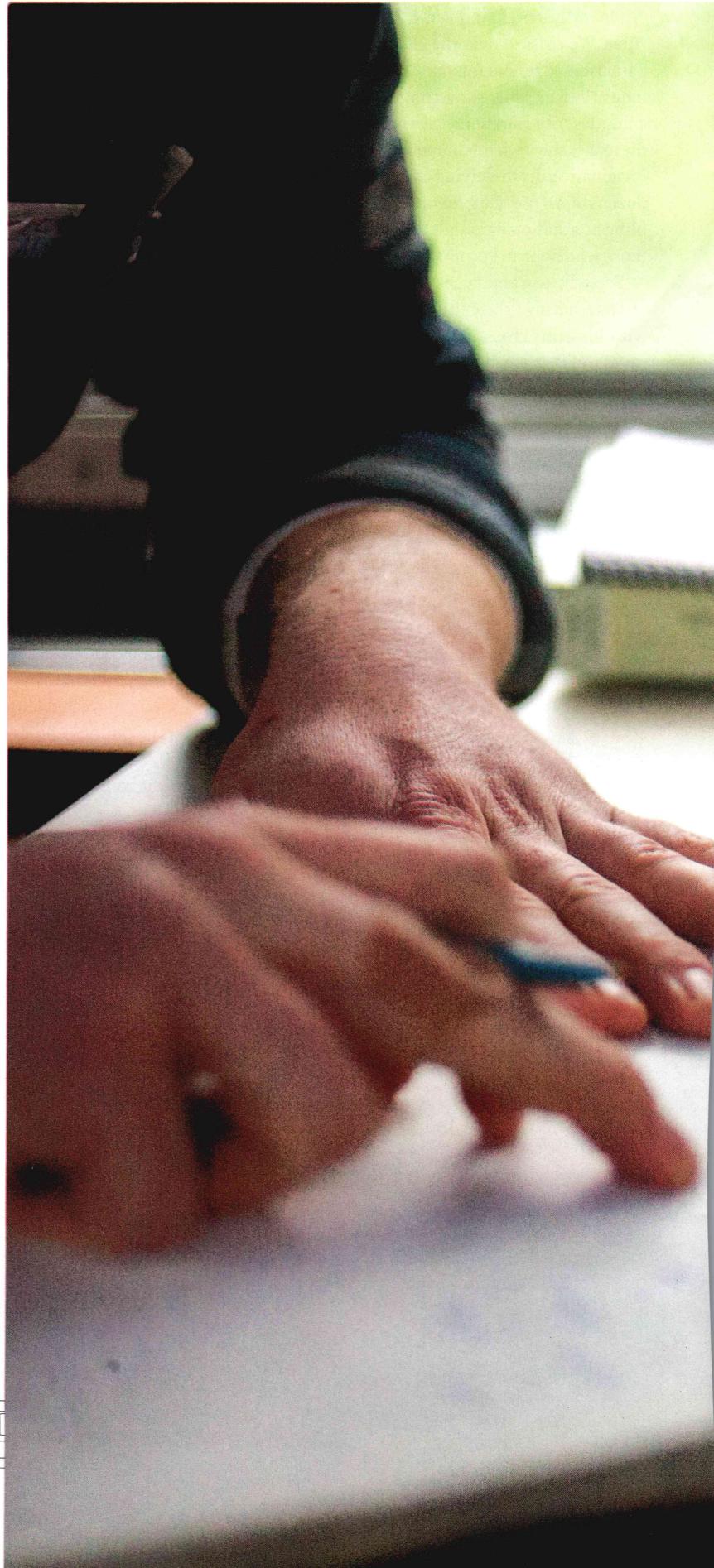
ERIN BRETHAUER is a photographer and filmmaker based in San Francisco and is currently working on a long-term body of work set in Paradise, California.

What happens when you put a classroom on wheels and park it in the poorest neighborhoods of San Francisco?

By Elizabeth Weil

Photographs by
Eugene Riley and
Chris Shurn

"You Got
Your High
School
Diploma?"





One day late last August, Shelia Hill sat at a table on a sidewalk in Sunnydale, outside a San Francisco city bus that had been painted an exceedingly upbeat shade of apple green, yelling at every car that rolled by.

"YOU GOT YOUR HIGH SCHOOL DIPLOMA?"
"Hey, how YOU doing? You got a minute?"
Shelia — who is 51 and has bright red hair and who is fond of sharp sweats, lacquered nails, and a pair of Adidas that say love — was sitting with Katie, the bus driver, trying to recruit students. Shelia was doing all the work.

"How's your day going? Blessed?"

"Hey, YOU got a diploma? You want an application?"

Sunnydale — the name of a housing project but really the name of a neighborhood — is one of the poorest, most forgotten parts of San Francisco. If Shelia could get people to fill out applications, she could perhaps get them to change their lives, since the bus was a traveling classroom, the latest project of the Five Keys Charter School. Shelia had done it — she'd bucked nearly 40 years of failing at school and earned a high school degree. Though to be honest, she hadn't done it on her first try. Or her second. Or third. Or fourth try, either. By the time Shelia arrived at the Five Keys classroom at 1099 Sunnydale Avenue, in 2014, she'd not learned how to read in high school and dropped out. She'd not learned how to read at San Francisco City College and dropped out. "The lady told me I was wasting my time," she says. "That I just need to get a job, let the school thing go." She'd fallen into drugs, prostitution, bad relationships, and jail.

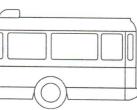
Then Shelia met a nun named Sister Patsy, who mentioned that Five Keys Charter School was just about to open up in the neighborhood. The charter was started in San Francisco County Jail and was the brainchild of a woman named Sunny Schwartz, who looks like Patti Smith and has Smith's same earthy-yet-holy aura. Five years after it launched, the school began opening classrooms around the city — or, to be precise, in the small pockets of intense poverty in the glisteningly rich city, since that's where the people who went in and out of jail and didn't have high school degrees lived. The idea was to keep students enrolled once they got released.

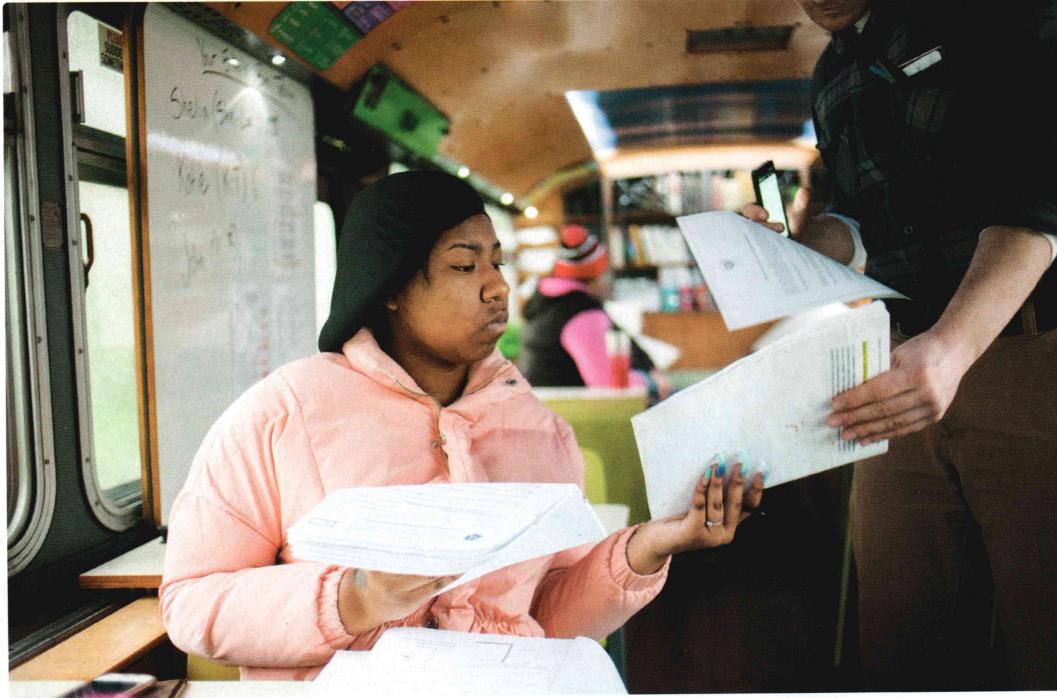
At her graduation, in 2015, Shelia said to the Five Keys principal, "So, now you gonna hire me, right?" He did.

Clockwise from top left: The Five Keys Mobile Self-Determination Project bus in Sunnydale; Shelia Hill, the bus's community ambassador; John Beiser instructing D'Anni Williams; students (left to right) Aliciah Willis, Promi Dasi, Linda Williams, and Jarhonda Jones



Shelia, whose title is community ambassador, had lived almost her entire life in Sunnydale and knew pretty much everyone who walked down the street. People honked, waved, hugged, and hooted. Some pulled little dogs out of their bags for Shelia to pet, joking, "I put my toughest look on with my little Chihuahua." A week earlier, Shelia had helped host





a barbecue to get Sunnydale residents comfortable with this classroom on wheels. She'd invited the neighborhood shot caller, who'd shown up with a case of Frito-Lay's. Still, the vast majority of passersby didn't stop. The chance to spend many hours sitting quietly doing an activity that, by definition, you'd failed at previously was not an easy sell. Yet those who

mustered the courage and optimism to step on the bright green FIVE KEYS MOBILE SELF-DETERMINATION PROJECT — the bus's proper name, emblazoned across its side — were impressed. Sunny had hired an architect who was interested in social justice to design the bus with the explicit goal of promoting a sense of dignity and calm. She wanted students to feel that they deserved beauty. She wanted students to feel that a life of the mind was for them. The interior was kitted

The chance to spend many hours sitting quietly doing an activity that, by definition, you'd failed at previously was not an easy sell.





out with pretty bookshelves, plywood desks, chartreuse chairs, faux-parquet floors, couches, and pillows.

Sunnydale already had its share of school buildings: Big Vis (the middle school in Visitacion Valley, as the larger neighborhood was known), Little Vis (the elementary school), and a community center called TURF (opened in 1994 to broker peace between the police and Sunnydale residents, though Katie, the bus driver, who'd grown up in the neighborhood, told me that no one wanted to go to the classroom in there, as "it was a s---hole. It smelled. It was a mess. It was really loud"). There was a Five Keys classroom just across Sunnydale Avenue from where the bus was parked, but many residents would not cross the street,

Shelia Hill
near her home
in Sunnydale

as that could mean entering rival gang territory. Shelia herself had no problem with this. She'd recently moved her family from this side of Sunnydale Avenue to the other, pushing all of their possessions in a shopping cart. But Shelia is not everybody — or she was and now she's not.

One day ten years ago, when she was riding a San Francisco city bus, she



saw a really pregnant woman smoking crack. Shelia proceeded to smack the pipe out of the pregnant woman's mouth and tell her that she was killing her baby. Screaming ensued. When that ended, Shelia shoved her phone number into the pregnant woman's bag and told her to call if she ever wanted help getting clean. A few weeks later, Shelia's phone rang.



"I had my baby," the woman from the bus said.

"Congratulations," Shelia said. "That's beautiful."

"No, not congratulations. I don't want this baby. You take this baby or the white man is going to take it."

Shelia already had two children in their late teens. She named the baby RaKai and adopted him.

It was hard to remember, sitting here, that this was San Francisco, the city that thought of itself as so progressive and yet.... Almost the entire neighborhood was two-story units that looked like barracks, which they basically were. Most of the housing was built in the 1940s as living quarters for naval shipyard workers and appeared to have received no upgrades since. Some of the units were now painted rust; others, a mildew-y shade of yellow. Almost all were crumbling and held together with security bars and plywood nailed across broken windows.

Just a couple of miles away, over the hill, was the San Francisco as most know it — the city of Airbnb and the Salesforce Tower, municipally installed rainbow sidewalks in the Castro and more billionaires than anywhere in the world but New York and Hong Kong. Sunny, the Five Keys founder, figured if some a-hole over in rich San Francisco could get financing to sell \$12 lemonade, she could pull together the money to put desks and a teacher on a bus and roll that classroom up to where people needed education most.

Shelia kept at it all afternoon: "You got a minute? Hey, how you doing? How's your mama? How's your baby brother?"

"It right there? They do it on the bus?" a man using an umbrella as a cane asked.

Shelia said, "Ummm-hummm."

The man disappeared through the bus's front door and returned a few minutes later, clutching an enrollment form. "Oooooo, that nice," he said, stepping back onto the sidewalk.

"Monday and Wednesday, 11 to 3," Shelia said. "We'll be parked right here."

EIGHT WEEKS LATER (the start of school was delayed by mechanical problems — that's what you get when the city of San Francisco gives you an old bus), Shelia was onboard, talking about how she wanted to get some of those Google Pixel earbuds that translate foreign languages and wear them to the nail salon. John Beiser, the bus's 34-year-old teacher, was dressed that day, as almost always, in corduroys, a plaid shirt, and a black zip-up jacket with a Five Keys logo on it. By his own accurate estimation, students thought he looked like a highway patrol officer or an undercover cop. John had grown up middle-class in suburban Davis, California. Before teaching Spanish to Five Keys students in the Solano jail, he'd worked as a wildland

Shelia had bucked nearly 40 years of failing at school and earned a high school degree. Though to be honest, she hadn't done it on her first try. Or her second. Or third. Or fourth try, either.

To try to build consistency, John texted each of his students every day. Most never wrote back. One responded after weeks of silence saying, "Thanks for never giving up on me."

firefighter. He'd earned a master's in humanities from the University of Chicago, where he studied Hegel and Foucault. He'd tutored English to tech executives who'd just moved to the Bay Area from overseas.

At present, he was sorting workbooks, or packets. Each contains one unit, most written by Five Keys staff, of English Composition or World History or Economics or Restorative Justice. In the bus, once students have enrolled and taken a placement test, John talks them through new concepts one-on-one. Each week, each student is then expected to complete a packet — worth one credit. Individual study is the only model that works.

The "five keys" that the school is named for are education, employment, recovery, family, and community. The school, the first in the nation to open in a jail, has about 2,000 active students. They show up at different places academically, move at varying speeds, disappear and reappear at idiosyncratic intervals. Many come in and out of the program multiple times. The school is built for this. "The good and bad news is we have a huge database now of probably hundreds of thousands of names across the state," Five Keys Executive Director Steve Good told me. "When somebody comes in and out of jail the fifth

or sixth time, we know exactly where they left off, and we have over 80 sites in the community where somebody can pick up their education right off."

In addition to Sunnydale, the bus stopped at three public housing projects, two mornings or afternoons a week at each. John had hung a wall-of-fame poster up on the bulletin board, complete with students' names and star stickers. Consistency and focus are elusive commodities for Five Keys students to come by. It's hard to think about historical migration patterns if you're worried you're about to overstay your welcome on your great-aunt's couch and you have nowhere else to go.

Around 12:30 p.m., a young man named Raymon boarded the bus with Pooka, his girlfriend.

"Sign in, baby," Shelia said.

Raymon, in black high-tops and gray sweats with red Kellogg's boxers poking out, was singing loudly to the music streaming through his earbuds. *Is it tru-u-u? Is it tru-u-u?* "I've been doing my homework already," he announced. "You seen me?"

Shelia said, with love and firmness, "No."

Raymon talked a big game. He was going to the recording studio that afternoon, and he was going to marry Pooka, even though Shelia happened to know that Pooka was single that morning. Pooka was less convinced about all this. Raymon was charismatic, sure, and at age 19, life had not yet extinguished the cocky sparkle in his eyes. But she was already in possession of a high school diploma, a job at the mayor's office, and the self-respect that went along with those two things. She told Raymon that she needed a ring, a big ring, then left to go to work. Nobody in Raymon's family had ever graduated from high school.

Shelia had been there, in Raymon's position. In fact, she'd been in worse. After dropping out of high school without learning to read, she "got out on the streets," as she put it. Broke, homeless, and prospectless, she started stealing. She hooked up with some friends whom she knew she should not hook up with, and, she told me flatly (trauma being the only thing Shelia describes flatly), "it went from there." Shelia got kicked out of two consecutive federal Job Corps programs for fighting and stealing. She moved back home on her mother's condition that Shelia attend school. She did not go. Then, she said, "It went all bad, and it kept going bad."

Shelia informed me of the following, making it clear she did not want or need any gooey, pointless, comforting-to-me-only pity that I might have been prepared to offer. She'd shared her story many times before, as part of a Five Keys restorative-justice program. So she was telling me: After leaving home the second time, she fell in with an abusive boyfriend and got pregnant. "He's the reason I can't see out of my left eye now," she said. She stayed with him for two years. Shortly after she left him, he tracked her down at a club on Third Street, in San Francisco's Bayview neighborhood. He dragged her outside, shoved her into a car, and drove her up to where Shelia then lived. "It was him, his brothers, and his cousins," Shelia said. "They raped me for like two days." When the men all finally fell asleep, Shelia ran outside wearing just a slip. On Brookdale Avenue, she saw a van full of guys parked, cranking music in the early morning. She assumed when they opened the van door that she was going to be assaulted again, but instead the men pulled her inside and drove her a few blocks away, to her mother's house. "When she see me, she started screaming," Shelia said. The next thing Shelia remembers is "waking up at the hospital, and I hear the nurse saying, 'This poor baby. Don't show her a mirror.' They asked me who did it. I told 'em. They all went to jail. They got convicted and everything — rape and sodomy."

How does a person pull themselves up, gain balance, and move forward? Shelia tried many times, but she kept falling down and slipping back. She credits RaKai with giving her the strength and ballast. "I don't know how to this day — how? How?" she asked. How had San Francisco Family and Children's Services ever allowed her to adopt RaKai? "How could somebody who's been in jail for drugs, prostitution, this that and this other, how could they let me have him? I was like, *I got to get myself together. I got to get my life together.* I need him as much as he needs me." RaKai motivated her to complete school when he was in kindergarten and said, "Mommy, you said I got to go to school, but you never been to school." Shelia hedged one last time and showed RaKai her fake high

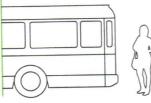




school diploma. But then she told him it was fake, and RaKai told Shelia he thought he wasn't supposed to lie. It took "a year and some change" at Five Keys, Shelia said, for her to prepare to take the high school equivalency test. Her reading curriculum started with Dr. Seuss's *Green Eggs and Ham*. She had no faith that anything good would come of it. "I was like, 'I ain't going to pass. I ain't going to pass,'" she told me. "And my teacher was like, 'Stop saying that. Stop thinking like that. I'm going to show you how to pass. I'm going to show you how to do this.'"

No one could say if Raymon's current run at a high school degree was going to work for him. After Pooka left, John pulled up a green chair next to Raymon and opened a laptop.

**John Beiser
working with
José Cedeno;
Yesenia Andrew
at a desk**



Raymon's transcript had finally been transferred from the San Francisco Unified School District. "You got A's in algebra. You got A's in history. You got A's in English," John said. This made Raymon drop his defenses enough to take out his earbuds. "You have an A in architecture but an F in life skills."

The drama of the day was figuring out how many more credits Raymon needed to graduate, a job that sounds like it should have been straightforward but was not. Raymon had 160 credits. Typical San Francisco Unified School District students need 230 to graduate. But adult students need only 180 to earn a GED, and students who are in foster care, homeless, or what state laws AB-167/216 call "probation-involved youth" can earn reduced-credit diplomas with only 130.

Raymon jumped up shouting, "I graduated, y'all. I'm DONE."

Shelia picked up her phone to call the school district's central office and get Raymon's AB-167/216 paperwork started. John exhaled. Thirty-five of Raymon's credits came from electives, which might present a problem. Regardless of credit counts, Five Keys students needed to complete a core curriculum in all subject areas, including restorative justice. Beyond this, John and Shelia were in a profound, largely silent philosophical debate about whether they should be trying to get students to race through the Five Keys requirements, feel the success of graduation, and leave with a GED (Shelia's view), or whether they should be encouraging students to slow down, acquire

skills, and create an ongoing relationship with school (John's view).

Five Keys' official policy is to try to slow students down. "We've had folks over the years say we need to get people high school diplomas because that's their ticket for a job and they can't spend a lot of time with us," Steve Good said. "That's great, but the high school diploma still needs to mean something. It needs to be a benchmark for something — minimum qualifications and skill set. If we're graduating people who can't read and aren't numerate, what's the point? We're no better than a diploma mill." To protect against this, Five Keys students must perform at a seventh- to ninth-grade level, depending on the class, before they can take the core curriculum required to graduate. Five Keys also tries to steer students away from using the AB-167/216 exception if they're making normal progress.

"I don't want him thinking he needs five credits and he needs 30 credits," John said to Shelia, hoping to manage Raymon's expectations. "I want him thinking he needs 30 credits and then needs five."

Raymon strutted down the bus's center aisle, pretending that he was walking across a stage, collecting a diploma.

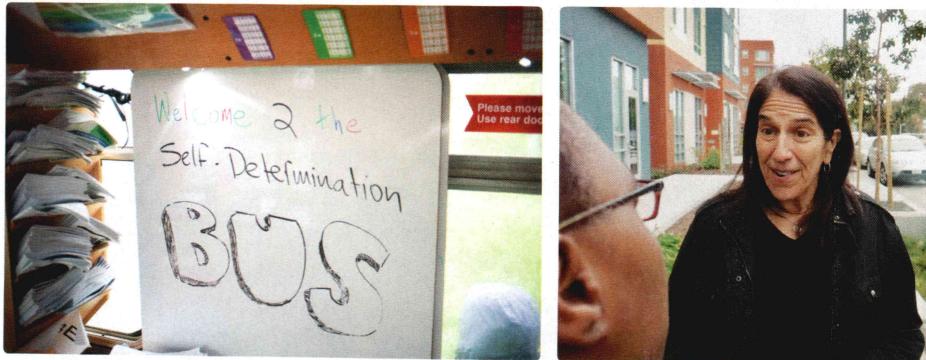
On the way out the door, Raymon waved his history packet at John and promised he was going to finish it by Wednesday.

"Slow and steady," John cautioned. "Fifteen minutes a day."

Shelia yelled after: "But if you can!"

MOST OF THE STUDENTS who got on the bus wanted to turn their lives around, but forces conspired against them, and they were not in position to just then. Cindy often sat behind

the bus driver's seat, looking out the window. She'd been abused by her husband, but then he died, so now she could come to school without fear of getting beaten up. Shelia was unfailingly cheerful when Cindy arrived. John reviewed adding fractions with her again and again. It never seemed to stick — perhaps she was just too distracted inside. Still, John took Cindy's continued presence as a win. "I'm happy because I know that someone is trying really hard and they're



From top:
Jarhonda
Jones; Five
Keys founder
Sunny
Schwartz;
John Beiser
reviewing a
packet with
Roshawn
Finley



seeing that effort matched and honored," John told me. Then he told me about what he called her intergenerational trauma. "Cindy was raped, and her daughters were raped, and her son is in jail for rape. The cycle repeats. People used to call it a curse. They'd say, 'Cindy's family has the curse of rape.'"

A woman named Lavoris — "Like the mouthwash!" she said — flirted relentlessly with John. "Teacher John!" she called out in her sparkly purple tank top. "Ooooo, Teacher John." She brought soup packets to mix with water heated in the bus's microwave. She had dreams of opening a doughnut shop. "It's like I never existed or something," she said after John told her that he'd requested her high school transcripts and the school district had sent nothing back. "My name was on the graduation list. I just wasn't there. I had to get a full-time job to get away from my mom." She often showed up hungry.

There was a young woman with royal blue nails and royal blue sneakers, who kept her



head zipped inside the hood of her royal blue puffy jacket. There was Sexy Denise, who earned her nickname after the bus driver asked her for her email address and she said, "Ummm, sexydenise at...." Sexy Denise was pregnant and had a 5-year-old daughter and was so tired by the end of her pregnancy that she often showed up in a two-piece pajama set covered with zzzzzz.

There was the woman who lived directly across the street from where the bus parked at a housing project known as Double Rock. "She lives right there, right there. She just won't come," John said. As it did for almost half of Five Keys' potential students, enrolling alone sapped all the willpower she had in reserve. "Taking the placement test was a bridge too far," John said.

One afternoon during a drenching rainstorm, a 6-foot-9 man named Marquette poked his head through the bus's door.

"What's this?" he asked gently.

"This is for school," Shelia said. "You got your high school diploma? Come on in."

Marquette folded his limbs up like tent poles and sat down beside a desk. He recognized Shelia. "You're Kenya's aunt, right?" he asked her.

Shelia nodded. "Yeah, I miss the



hell out of my baby. I miss him every day." She turned to me and said, "He got killed."

Marquette told Shelia that he'd gone to three years of college to play basketball, but he didn't have a high school degree.

This was a new one, even for her. "How could someone give you a scholarship for college, but they ain't finished high school? That's called, they just using you for their team. That's so cold. That shouldn't be. That's setting you up for failure! That should be illegal."

Another day at the Double Rock location, there were no students on the bus at all. Instead, there was a big shrine half a block away: a sign that read HIT HARD PING, surrounded by tall glass votive candles with paintings of saints, Jack Daniel's bottles, and balloons. Shelia pulled up a photo on her phone of a handsome young man with long hair.

"People don't want to come out when it's hot," Shelia said, referring to the increased police and gang action on the street after a shooting death. She started making calls. "Hey, Caesar. It's Shelia from Five Keys. How you doin'? OK. I know. I heard. You OK? OK. We on the bus. See you Thursday."

The drama of the day was figuring out how many more credits Raymon needed to graduate, a job that sounds like it should have been straightforward but was not.

BACK IN THE OTHER San Francisco, in Noe Valley, a nice-but-not-especially-swanky neighborhood where the median home price is \$2.2 million, I met Sunny Schwartz for coffee. Just the night before, she'd seen a young homeless woman in front of Safeway, near her house by the Giants ballpark, and she'd bought her a meal. The young woman preferred sleeping on the streets to living at home with her abusive father. She did not have a high school degree. Nothing in San Francisco felt fair if you thought about it for too long. If the Bay Area were a country, it would have the 19th-largest economy in the world. The waitlist for a shelter bed is more than 1,000 names long. A family of four with an income under \$117,400 per year qualifies as low income. Only 14 percent of low-income black kids read English at grade level. Ten percent are proficient in math. About 80 percent of white kids attend private school.

Sunny had been working in criminal justice, mostly in the San Francisco jails, for 37 years. I asked her how she stayed hopeful. "Hope," she said in her husky voice. "That's a good one. What's the alternative?" She knew, for poor Americans, the prison and education systems were not only unfair but were invested in people's failures. She knew exactly how far away Sunnydale was. "It's Lebanon or something."

Sunny had never intended to start a charter school. She just needed a solid education program for the restorative-justice dorm she'd founded inside the San Francisco County Jail. Restorative justice was the motivating idea — *tikkun olam*, repairing the world, as Sunny's Jewish father would have said. When Sunny heard about the concept, at a conference in 1985, she "went good and crazy," she said. Restorative justice is built on the idea that we're all in this dysfunctional system together. We made this world, all of us, with its thousand-mile ten-minute drive between Noe Valley and Lebanon. Now we need to repair that world together. "The pamphlet said — I remember it word for word: 'Restorative justice recognizes crime hurts everyone: victim, offender, community and creates an obligation to make things right.' 'Creates an obligation to make things right.' We all have an obligation." Sunny paused. "We have a moral and professional obligation to work together to make things right."

Sunny was now trying to start a bus to park outside San Francisco's Hall of Justice so women released from jail in the middle of the night could get



It's hard to think about historical migration patterns if you're worried you're about to overstay your welcome on your great-aunt's couch and you have nowhere else to go.

city with high-speed Wi-Fi. Then Good read that a nonprofit had installed bathrooms on old city buses and was bringing showers to the homeless. "I thought, S---, we've got to do this," Good said. Five Keys applied for a Google Impact Challenge grant to start a classroom on wheels. They won \$100,000 and set out to design a dignified, mobile place to learn.

But there was almost always something. Lots of days the bus broke down. Or the driver was sick. Or the roof leaked. Or the San Francisco Unified School District was on vacation so the bus was, too. John got worn down. Each packet was 13 hours of work. The expectation that students would do one a week was a complete joke. About half his students were homeless.

"The middle-aged women come," he told me one day. "The adolescent males don't. Did it occur to you when you walked by smoking weed or when you were playing video games that if you just did your packet for 15 minutes a day, you'd actually get something done?" He then tried to reel in his exasperation. "For me, I guess the analogous challenge is to be patient. Some people you have to enroll them seven, eight times. I've had students doing the same homework packet eight times."

To try to build consistency, John texted each of his students every day. Most never wrote back. One responded after weeks of silence saying, "Thanks for never giving up on me."

Another, after 47 texts, replied: "Oh, my family moved to Oklahoma."

Caesar, when he showed up, allowed John to teach. A big weathered man with strong arms, gold teeth, and neck tattoos, he sat with John and worked on various methods for rephrasing $2(x + y)$.

"Once you start getting algebra, it's amazing," John said. "You're going to feel like a genius."

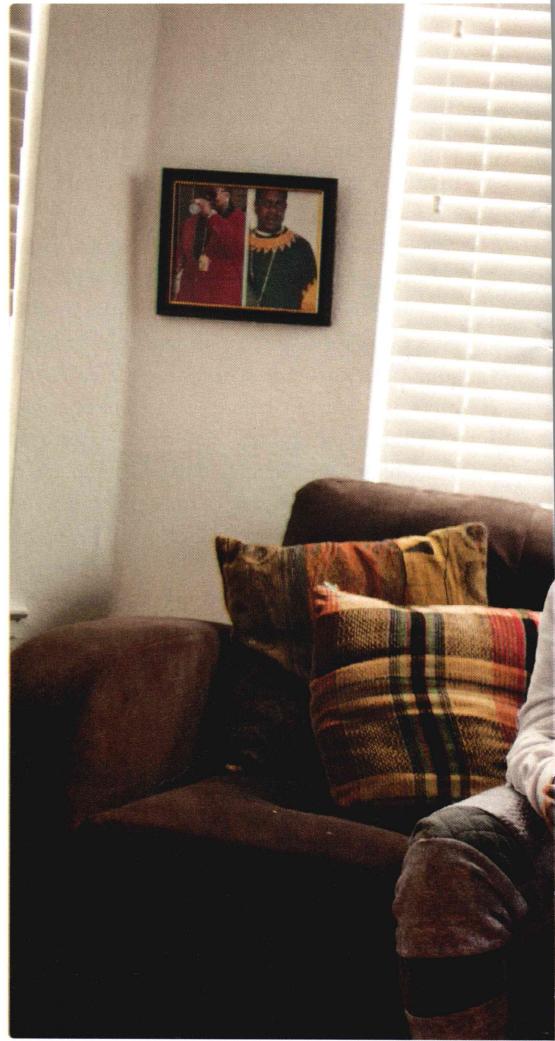
"Here comes the honor student!" Shelia yelled when Caesar returned the next week.

John handed him back his algebra packet: "Congratulations on your first A."

Caesar looked back at a young man sitting behind him. "Don't ever say that again," he said to John, joking that being known as a math nerd would blow his cool. Caesar nodded toward the young man. "He wants to be like me. I don't even want to be like me."

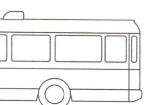
a meal, some decent clothes, and a safe place to sleep instead of going right back out on the streets. She was also trying to start a halfway house for women recently granted clemency after being sentenced to life without parole for killing husbands who abused them. Five Keys was unusual, said Max Kenner, who runs the Bard Prison Initiative and evaluated the organization for Harvard's Kennedy School of Government in 2015, because the school was created with the understanding that incarceration is part of life for their students. It is not a special condition. It's not a social problem unto itself. Jail is one of a network of social institutions that poor black and brown Americans regularly encounter. Five Keys, he said, uses the infrastructure of jail "to do positive good rather than just mitigate harm." Sixty to 70 percent of formerly incarcerated people recidivate in California. Only 23 to 26 percent of Five Keys graduates do.

Nobody in the organization remembers anymore who came up with the idea for a bus. Steve Good, the executive director, just knows that the entire organization was appalled by the condition of the Five Keys classroom at TURF — the filth, the puddle of water on the floor — while tech buses were driving all over the



THE REST OF SAN FRANCISCO churned along. The meal-delivery service Munchery folded after blowing through \$125 million in venture capital. Twitter CEO Jack Dorsey announced on the platform that he'd been "playing with fasting" and that it made him feel like his days were slowing down. The *San Francisco Chronicle* published an investigation into the fraud, lies, and failed cleanup of a still-unremediated Superfund site near a planned affordable-housing development. Shelia talked about her life. RaKai was turning 10 and wanted a birthday party with tie-dye and 20 kids for dinner, but she couldn't figure out what week she and RaKai should go.

Yet there were extra dramas, more-complicated dramas, dramas that seemed in no small part the result of dramas and traumas that had come before. Shelia's 19-year-old former foster daughter called from Las Vegas and told Shelia that she was going to leave her 4-month-old baby in the





middle of the bed when she went out partying. Shelia threatened to call the police on her. A little later, the former foster daughter FaceTimed Shelia to show her the baby in the stroller while she was partying. Shelia had a full house already. In her four-bedroom apartment lived RaKai, her 26-year-old daughter, her 25-year-old son, her son's fiancée, and their 7-year-old daughter. Now Shelia thought she might need to take in her foster daughter's baby, too.

For a while, Raymon kept showing up — singing, quieting for a moment when Shelia told him to shut up, napping in the lounge. But he never turned in any work. One day, he brought a friend along who already had a high school diploma as low-key moral support. John engaged both of them in a conversation about supply and demand. But it was not enough. “I

Shelia Hill in her apartment with her son RaKai

she asked, all business. Time was not Ashley's friend. She had two babies at home — home being her neighbor's couch. She took her two new packets and left.

An individual triumph is not a systemic fix, but last spring, Ashley completed her credits and passed the GED. In the beautiful, neoclassical Academy of Art University auditorium, just two blocks from the Saks Fifth Avenue in Union Square, she graduated — the only student from the bus to do so. Sixty-seven other students from community classrooms earned diplomas at the Five Keys ceremony that day. None had walked a straight path. None had graduated on their first, or their second, or even their third try. The world had not been repaired. Still, the theater filled up with Mylar balloons, bouquets of supermarket daisies, and guys yelling at one another, “Respect. You did it, baby!” — and that felt good. Ashley walked across the stage, a little shaky in her 4-inch platform sandals, a child in each arm.

A few weeks before, Shelia had filled out Ashley's AB-167/216 paperwork. To the official documents she attached a letter, written in cursive on white-lined paper, from the neighbor whose couch Ashley slept on. “No she is not a resident nor do I charge her anything due to the fact that she's homeless and without employment,” it read. “The only thing I want her to bring me is a copy of her high school diploma once she's finished school.” ♀

got my first gray hair last night from the stress,” Raymon said. “I'm stressing for real. I feel like I've been having this history packet for years.” He never returned.

The last time I was at the bus, I learned that Raymon had finally graduated — though he did so from jail. John was sitting, alone, waiting for students to show. The week before, a young woman had thrown her packets in the trash right in front of him. “I got more important things in my life,” she said, storming off. “I got to feed my kids. I got to get the light back on. I can't deal with this.”

John cleaned her packets off and put them in a folder and waited for her to come back. “It's not like she doesn't have more important things,” he said. “She absolutely does have more important things. Last week, she asked me for a letter of recommendation for a job. I was like, ‘OK, I want you to get this job. You need the money, obviously. But that means you're not going to be able to come to class anymore.’”

A bright spot on the bus was a young woman named Ashley who, one afternoon, stepped aboard carrying a Five Keys folder and a Five Keys backpack. She bantered with Shelia for a minute, but she never sat down. She just stood by the bus's front door and handed her packet of completed work to John.

“I still have the restorative-justice packet? And is there another math one?”

ELIZABETH WEIL lives in San Francisco and is a writer at large for *The New York Times Magazine*.

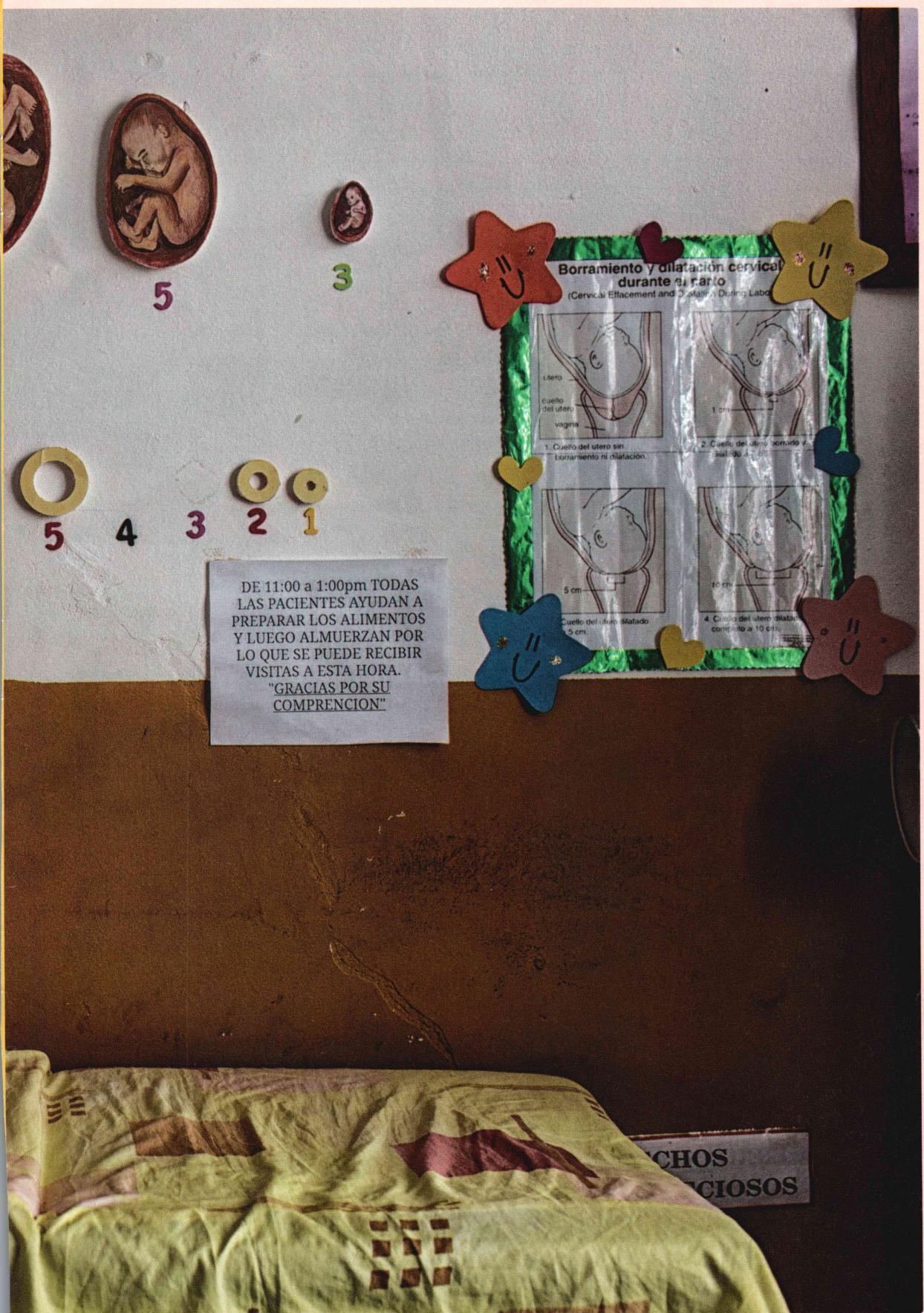
EUGENE RILEY is from San Francisco, and **CHRIS SHURN** is from Oakland. Both photographers attended San Francisco State University through Project Rebound, a program that helps the formerly incarcerated get a college education.



An examination room in a maternal waiting house, where women who don't live near a hospital wait out the end of their pregnancies. Home births are illegal.

EXPECTING

The pregnant teen, the villager giving birth far from home, the woman imprisoned for miscarrying pregnancy in El Salvador, where women can't choose where, or whether, to give birth



PHOTOGRAPHS AND TEXT BY
NADIA SHIRA COHEN

Midwives who work in the poor, rural stretches of El Salvador rarely travel alone. They often visit gang-controlled areas to tend to their patients, women who have little access to medical care and even less say over their reproductive lives.

As of 1997, it is illegal to have an abortion in El Salvador. Women who miscarry or have stillbirths can be charged with homicide, which comes with a sentence of up to 50 years. About a third of all pregnancies are of teenagers between the ages of 15 and 19, some of whom have been raped. A common concern among survivors is how they'll support their child.

So women and girls have their babies, whether they want to or not, whether they're ready to or not. An alarming number feel they have too few options and resort to taking their own lives. Suicide is now the primary cause of death among pregnant teens, with girls swallowing sulfur pills, traditionally used to wash beans.

It is in this climate that midwives spend their days hiking through cornfields, fending off dogs with sticks, carrying syringes loaded with contraception, advising girls on how to avoid pregnancy, and coaching others after they've conceived.

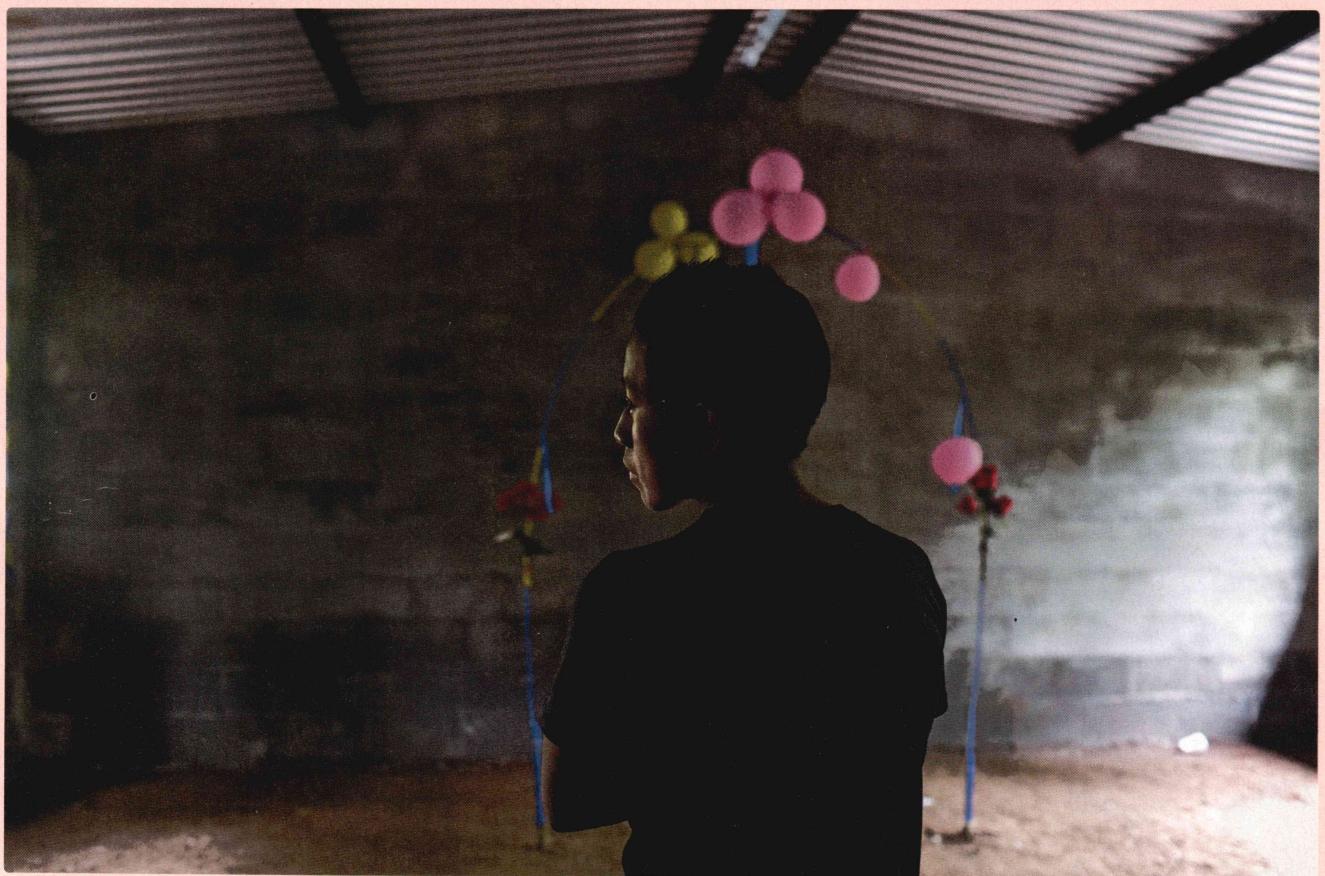
□□
Midwife Lolita Hernández de Rivera (left) examines 24-year-old María Laura Linares, who is 18 weeks pregnant.

□□
Patty Hernández Hernández with her 3-month-old granddaughter. Patty tended to her daughter-in-law's pregnancy before she delivered. Midwives are not allowed to assist with hospital births.

□□
Salvadora Dias Rivas (not pictured) was given a 30-year sentence on homicide charges. Salvadora admitted to the crime, although she says her boyfriend, who is in a gang, forced her to kill her baby. Her two children, Yessina Carolina (right) and Elias Edwardo (left), now live with their grandparents.













Flor Arely Sánchez Paz (left) faced homicide charges and 40 years in prison after having an obstetric emergency in which she almost bled to death. Before she was acquitted, she spent nine months in a holding cell while her mother took care of her five children.

Flor's daughter Mary at their home a week after her mother was released from jail

NADIA SHIRA COHEN is an American documentary photographer based in Rome. Her work focuses on issues stemming from human rights, including environmental conflict and women's reproduction, as well as social unrest and urban violence.

PREVIOUS PAGES

Teodora del Carmen Vásquez de Saldaña in the women's prison in Ilopango. Teodora had a miscarriage in 2007 and was charged with homicide. She spent nine years in prison while her family helped raise her now 15-year-old son, Ángel.

Maria Cristina, 17 and 38 weeks pregnant, rests at the waiting house. She comes from a remote community called Pepestenango, on the outskirts of Suchitoto.

Maria Cristina gives birth to her son at the Suchitoto National Hospital.

Ángel was 4 years old when his mother was sent to prison.

MEANWHILE in THE WEST

by WENDY MACNAUGHTON

Once the site of massive shipbuilding operations during World War I and World War II, Pier 70 in San Francisco played a big role in the city's early economic booms. Decades later, developers are responding to another boom, transforming the area into office space for tech companies and housing. To do that, they need more land. Jeremy Soiland, 36, is a key step: He makes rocks — an overlooked art form responsible for the ground upon which we all stand.



EVERYTHING [WE BUILD]
on THE GROUND HAS
ROCK UNDERNEATH.



MY JOB IS TO
MAKE THAT
ROCK.



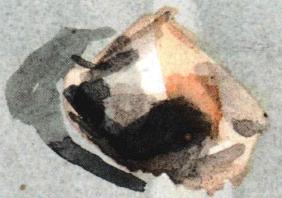
FIRST, THEY DIG UP CEMENT
into CHUNKS.
THAT GOES into A PILE.
THEN I FEED THAT PILE
into A ROCK CRUSHER.



ANYTHING 3/4-INCH OR SMALLER
FALLS THROUGH. IF IT'S TOO BIG,
IT GOES AROUND AGAIN. EVENTUALLY,
EVERYTHING GOES UP, and IT MAKES A MOUNTAIN
of SMALL ROCKS.



THE CONTRACTOR
DOES WHATEVER
THEY WANT
with IT.



I WAS CRUSHING on
TREASURE ISLAND, and
I CAME ACROSS DOG TAGS.
A WHOLE PILE of THEM. THEY
THOUGHT PEOPLE MIGHT HAVE
LOST THEIR FRIENDS and PUT
THEIR TAGS in The CONCRETE.



EVERY DAY SOMEONE IS DEMO'ing
SOMETHING. WE TEAR IT UP and
MAKE A PILE of ROCKS, and THEN
IT BECOMES SOMETHING for
THE FUTURE.
FOR MY KIDS.



MAKING
BIG ROCKS
into SMALL ROCKS.



THERE'S AN ART
to WHAT I DO.



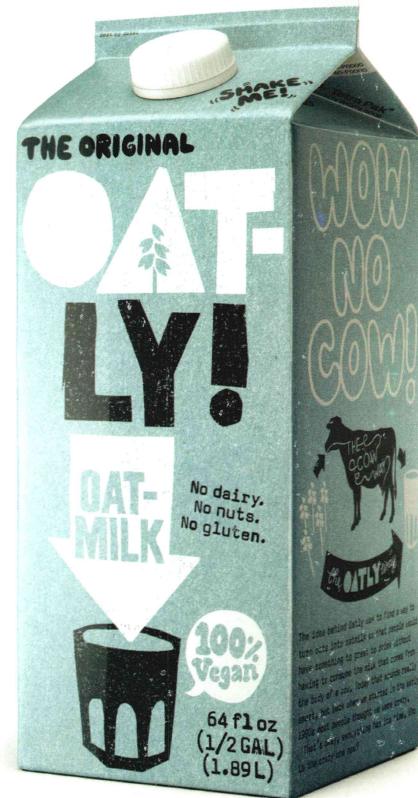
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If you happen to be
any of the above
then our nonexistent
target group analysis report says that you
just might be the right person for this
product. Congratulations to you and this
product for finally finding each other.
Perhaps it was always meant to be.